

WINDOWS 10 **IS IT REALLY A GAMING OS?**



MSI GTX 980Ti

THE FASTEST CARD ON EARTH!



PC **PowerPlay**

AUSTRALIA'S #1 PC GAMING MAG

**EDUCATION
SPECIAL**

SO YOU WANT
TO BE A GAME
DEVELOPER?

DARK SOULS III

THE REAL SONG OF
ICE AND FIRE

ACT OF AGGRESSION

IS THIS NEW RTS REALLY A
RETURN TO THE GOLDEN ERA
OF STRATEGY GAMING?

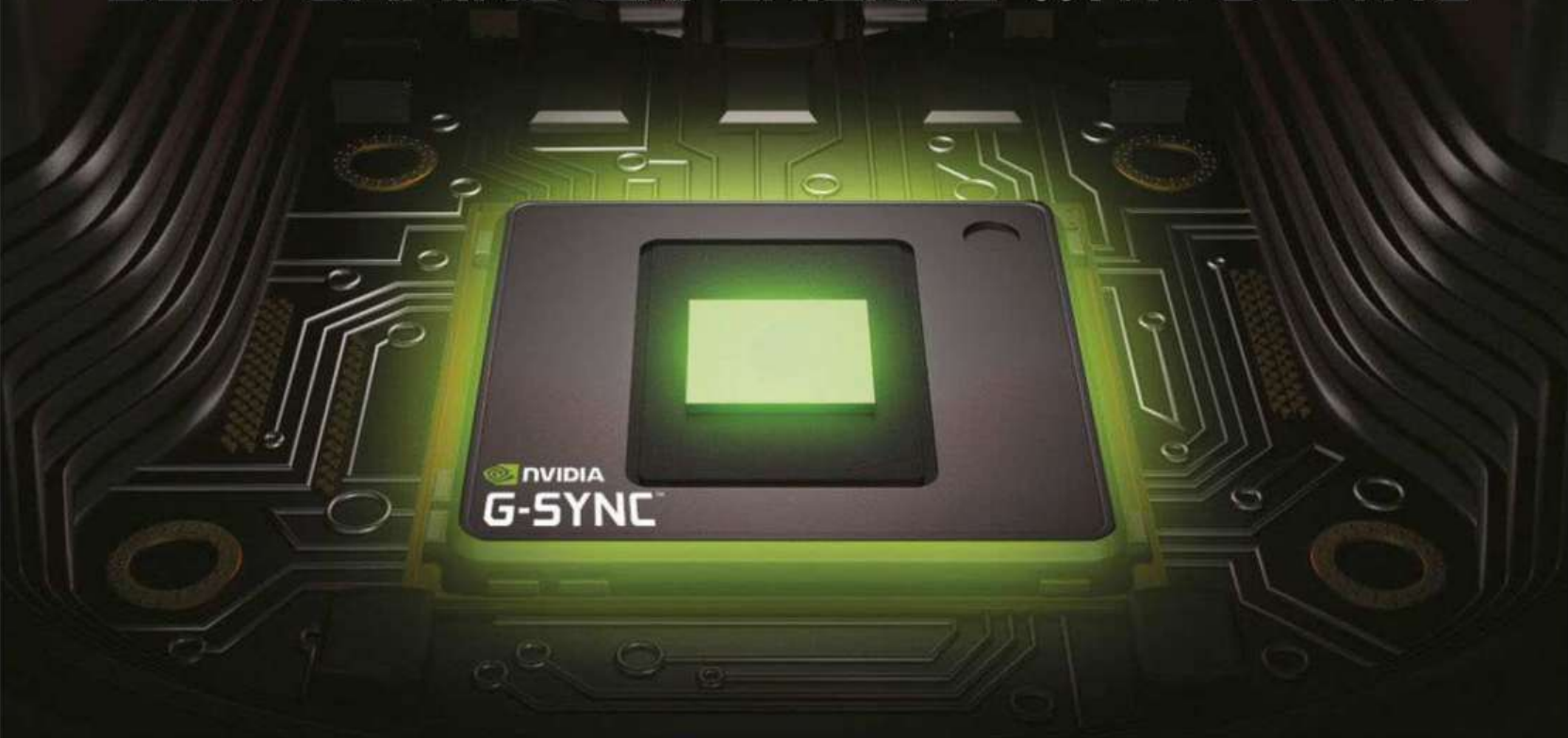
MIRROR'S EDGE: CATALYST

DICE SPILLS THE BEANS ABOUT
MOMENTUM, NEW COMBAT
MECHANICS AND ORIGIN STORIES

RISE THUNDER

WE TALK TO SETH KILLIAN
ABOUT THE PC-CENTRIC
COMPETITIVE FIGHTING GAME

BEST GAMING EXPERIENCE WITH G-SYNC



WHAT IS G-SYNC?

G-Sync is an adaptive sync technology introduced by NVIDIA and supported by ASUS as a tier 1 partner. To understand what G-Sync is, it's important to first understand what an adaptive sync solution is and the hardware within your PC that contributes to making up the parts of the technology, which are required to deliver the solution.

G-Sync aims to synchronise the delivery of rendered frames from the graphics processing unit (GPU) to the system's display. Connecting the GPU and the display is a DisplayPort 1.2 connection. This is vital for G-Sync to work and the technology does not work without it, for example, using a HDMI connection.

In the non-adaptive sync framework – the traditional GPU-display relationship – the GPU renders a dynamic number of frames per second, e.g. fluctuating from 80 to 160 frames per second (fps). However, the display is designed to operate at a static operating frequency, e.g. 144Hz.

For a smooth gaming experience, the ideal solution is to have the number of rendered frames from the GPU match the refresh rate of the display, e.g. 144fps @ 144Hz. Yet this ideal scenario is difficult to achieve given the dynamic nature of frames delivered from the GPU to the display.

Many years ago Vertical Sync – or V-Sync for short – was introduced to lock the maximum frame output of the GPU to the refresh rate of the display. While this fixes the issue of matching the number of frames from the GPU to the refresh rate of the display, it doesn't resolve the effect of visual lag (frame stuttering) and also incurs an input lag due to frame buffering.

Enter G-Sync, the gamer's saviour for smooth gameplay regardless of frame rate!

For a brief video from NVIDIA explaining G-Sync technology in simplified terms, check out this link: <http://bit.ly/1iL2bW1>

TWO PIECES TO THE PUZZLE

G-Sync requires two pieces to the puzzle: a GPU that supports G-Sync technology and a display with the integrated G-Sync module.

ASUS brought the first G-Sync display to market in the form of the VG248QE. With the technology proven, ASUS upped the game with the PG278Q ROG SWIFT. Flaunting the golden combination of G-Sync, 144Hz refresh rate, 1ms response time, 27" form factor and WQHD/1440p resolution, the PG278Q ROG SWIFT was an instant favourite with gamers the world over and continues to generate fanfare for the amazing gaming experience delivered.

But to enjoy this supreme gaming experience, the display must be paired with a supporting GPU. By pairing with a GTX 900-series graphics card, such as the ASUS Turbo GTX 960, ASUS STRIX GTX 970, ROG Matrix GTX 980 or ROG Poseidon GTX 980 Ti, the puzzle is complete and a superior gaming experience delivered.

..... To learn more about the
ASUS PG278Q ROG SWIFT,
go here: <http://bit.ly/1Fbq2rH>

..... For a list of G-Sync supporting
NVIDIA graphics cards,
go here: <http://bit.ly/1Ob8p64>



WHY GAME WITH G-SYNC?

G-Sync provides a solution that resolves the initial problem of an unsynchronised GPU-display relationship and the disadvantages associated with V-Sync. For the gamer, this means there is no frame stuttering, no frame tearing and no input lag induced by G-Sync. For gamers, this delivers an unparalleled gaming experience!

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ON THE COVER

DARK SOULS III

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The Dark Souls
series plays with fire.
Literally.

REVIEW

ARMIKROG

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Can beautiful claymation breathe life into old fashioned adventure gaming?



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WINDOWS 10 GAMING

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Is the new OS really that good for gaming?

TECH

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Meet the new king of speed



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YULE PREP

It's reached the time of the year when all of the events and releases are taking place. We ran our Upgrade Australia event in September, then there was the EB Expo in early October and in a few weeks it's time for PAX. There was also Oz Comic-Con in the middle, with a mix of all kinds of good nerd shit ranging from comics (obviously), to anime, games and cosplay. The lead up to the busy Christmas release time is a hell of a thing, with everyone putting on their big song and dance numbers to try and raise all the attention they can. Upgrade Australia is our event, run a couple of times a year to show a select group of readers all the latest and greatest in the world of PC tech. It's a win-win event for us, allowing us to deal with hardware vendors and developers as well as interact with our wonderful reader community at the same time. You should come along to the next one. It will be rad, and Ben Mansill will do a little dance for you (don't tell him I said that).

Starting November all of the big titles start to drop. We'll have Star Wars Battlefront, Fallout 4, Assassin's Creed Syndicate, CoD: Black Ops III, Need for Speed, Starcraft II: Legacy of the Void and more falling within the span of a few weeks. It's going to be insanity, for us and for you. For us, trying to get all of the reviews done in a timely and comprehensive manner is going to be exciting but a challenge at the same time, as many of the titles mentioned are going to take dozens of hours to review and all deserve some hefty page space. The budget problem is also going to extend to you, the consumer. Unless you make some crazy good money or have been pre-ordering games for months up until this point, you're unlikely to have enough money to go around. And as far as time goes, nobody, no matter how many free hours they have in a day, can hope to get through so many AAA titles.

This has always been a thing that confuses me about the mass drops of titles in a limited period. Sure, there might be a big bump for Christmas sales, but as far as regular sales go, won't the glut mean that you lose out on that steady stream of sales? I'm not a salesperson, so I could just be talking out of my arse. It wouldn't be the first time, but every time I hear some distributor talking about the disappointing performance of a game and using it as an excuse to lay off workers or cancel sequels, I always wonder if the fact that the game was released at the same time as a half dozen or more other comparable AAA titles was more responsible for the poor commercial performance than the game itself. Anyone want to make a bet on which game released for the Christmas rush becomes the poster child for "disappointing performance" in the next financial year?

Daniel Wilks

Editor

@drwilkenstein

QUOTES OF THE MONTH

"I only have 13 hours to save the Earth"

"Does that mean Derek Smart is actually right?"

"That was dangerous. I have a marker"

PC PowerPlay

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INTERN In need of a new one

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THIS MONTH...



DANIEL WILKS
Clicked on random things
[@drwilkenstein](#)



MALCOLM CAMPBELL
Asked for time off



BENNETT RING
Lost his broadband
[@benettring](#)



JAMES COTTEE
Eulogised Kojima
[@j_cottee](#)



MEGHANN O'NEILL
Remembered crying
[@firkraags](#)



JAMES O'CONNOR
Prepared for PAX
[@jickle](#)



BEN MANSILL
Won a race



NATHAN LAWRENCE
Doomed a free-runner



HEIDI KEMPS
Punched Robots



DAVID HOLLINGWORTH
Coughed



ALEX MANN
Prepared to die

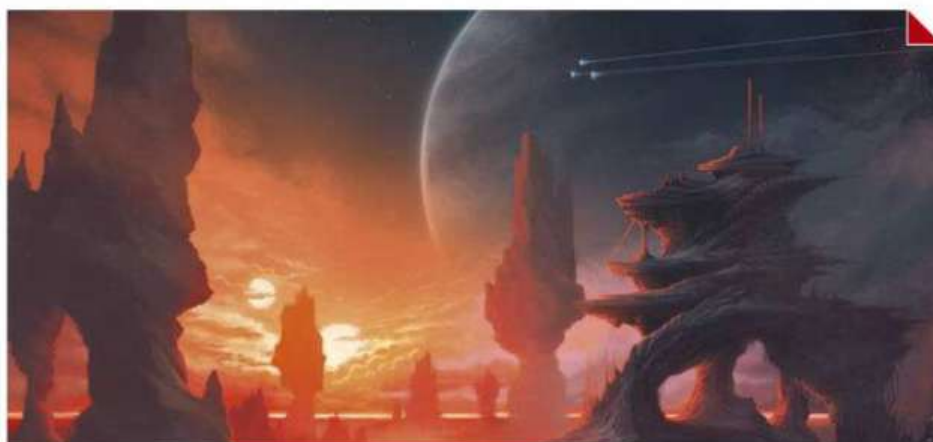


CAMERON FERRIS
Wore many hats
[@pcpowerplay](#)



SEAN FLETCHER
Was confused by
Blood Bowl

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Paradox moves from history to the stars



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Prepare to die again. Again.



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The best of independent development



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The most exciting games on the horizon

STARCRRAFT®

LEGACY OF THE VOID™

NOVEMBER 10

LEGACYOFTHEVOID.COM

M

Violence, online
interactivity

Previous versions of StarCraft II® NOT required to play.

BATTLE.NET™ ACCOUNT REQUIRED. INTERNET CONNECTION REQUIRED. ADDITIONAL ONLINE FEES APPLY.

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BLIZZARD
ENTERTAINMENT

Inbox

Na na na na na na
na, na na na na na
na na TOO LATE!



LETTER OF THE MONTH WINS!

Write in to PCPP with your rants, considered opinions, and endless run-on sentences of pure awesome. The address is letters@pcpowerplay.com.au. Each letter read by hand! This Letter of the Month winner scores himself a sweet Tyton gaming mouse, thanks to Roccat!

LETTER OF THE MONTH BAT DANCE

I just read that after months of it being not available on Steam that Warner Bros. are finally going to make Batman: Arkham Knight available for sale again. Personally I don't think it matters if Rocksteady have finally fixed all of the bugs with the game. It's too late to make it available again. People have already been screwed by the game not only with how buggy it was on PC but also because of how poorly the DLC worked with it. Rather than releasing the game on Steam, Warner should be releasing an apology and a heap of refunds.

Once the game was released initially that should have been the end of it. The game should have been finished and working but it has taken months to get it to a playable state. It was pulled from distribution in July and will be rereleased sometime in late October. To me that says that due to publisher deadlines the game was released at least four months early. Shouldn't they be held accountable for the disaster of the game rather than the developers? There were a bunch of delays before the game actually came out due to difficulties getting the game to run on next gen

consoles so shouldn't that be an indication that the game should have been given all the extra time it needed rather than rushing it out the door? It's Batman FFS. It's not like it's some risky new IP that they have to release in conjunction with a movie or something to maximise exposure. Batman sells itself. No matter when the game was released it would sell, so all I can think is that Warner pushed the release window so they could maximise quarterly profits to keep shareholders happy, no matter if the game was finished or not. Looks like that plan backfired to me.

Will Mathews

Hi Will – we think you're probably on the money about Batman being released when it was to maximise quarterly profit. Warner Bros. are a company after all, and they are beholden to the shareholders. That said, we also think you're right about the game being released way too early. It might be too late to put the game back on Steam unless it comes with a significant discount – the hype for the game has died down but the bad taste of the Steam version remains. With Bennett's review, many of the problems with the released version of the game came from optimisation, so a super powerful rig will gloss over many of them.

FEEDBACK #244

> Matthew Schmidt: Internet in Australia is not good – and for years when people speak up about it they're shunned by both developers and their fellow gamers with calls of 'move somewhere with internet' or 'no one cares about people out in the sticks'. The problem being of course – Australia is massive and most of it is sticks. So for Australia's lead PC Gaming magazine to bookend the latest issue with the Letter of the Month by Andre and A Series of Tubes by Wilks is just awesome to see. Kudos to you guys. Hopefully those who have excellent internet and are happy will at least ease off those who don't.

> Luke Evans: My thoughts are I didn't win the sub comp. I'm really keen for new Deus Ex, always loved the series. It's also got me fighting myself to buy a new CPU too!

> Brett Start: I need monthly updates on fallout. I'm running low on data from looking videos on YouTube.

MAKE YOURSELF HEARD!

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www.pcpowerplay.com.au

CORRECTION:

In the issue 244 Z170 mobo roundup we incorrectly ran a picture of the ASUS Maximus VII Hero motherboard rather than the Maximus VIII Hero. This is the correct image for the board.





WILLIAM 28, MELBOURNE, VIC

This month's MY PC brought to you by



My inspiration for this project came from watching a lot of programs about space exploration in the 60s and 70s as well as Battlestar Galactica. I really wanted to try and capture that look.

FOUR MOST IMPRESSIVE ELEMENTS:

- 1) The timber used was all reused recycled timber from railroad sleepers.
- 2) The custom PC mounting method. The design originally intended to have a case inside but when I measured up my tower I forgot to include clearance for cables!
- 3) Three monitors, and BenQ GW2400W and two Samsung syncmasters powered by a Sapphire AMD Radeon 7800 may have the most grunt ever, but they do create an eye-pleasing symmetry.
- 4) What could be more impressive than a missile switch!?

LAST UPGRADE:

A 120 GB Kingston SSDNow 300V.

DREAM UPGRADE:

I would love some more power, a Core

i7-4790K teamed up with a GTX Titan X and a PSU and mobo to power it is a dream of mine.

FAVOURITE FEATURE:

I really love how the screens look, it took way more math and messing around than I care to admit to get the things mounted!

WHY SO SPECIAL?

I truly believe that this set-up is one of a kind. Looking back the amount of time and effort (and swearing!) that I put into building this thing is pretty staggering.

1. That's some next level Bond villain shit right there
2. Obviously a space laser pointed at the Pentagon
3. Desk made from antique torture devices
4. Controls for poison gas dispensers
5. Doomsday weapons voice synthesiser
6. Seeming innocent mouse and keyboard

WILLIAM WINS!

For his sweet machine and with thanks to Thermaltake, William wins a Thermaltake DPS G 1050W 80+ Gold Digital PSU! Enjoy!



WANT FREE STUFF? Send your MyPC entry today to mypc@pcpowerplay.com.au. Include the four most impressive elements of its hardware, your last upgrade, your dream upgrade, your favourite feature and what you think makes your PC special. Make sure to include your name, age and location. And last but not least, attach a 5MP or bigger image of your PC! No camera phone shots, and make sure it's in focus!

ASROCK ANNOUNCES NEW GAMING-FOCUSED G10 ROUTER

The G10 will cut down on lag, and looks kind of impressive to boot!

Asrock's better known for its motherboards, but it's now making a run at the networking market. It's new G10 router is a 4T4R 802.11a/b/g/n/ac device aimed squarely at gamers, and promises to deliver "stable and lag less online gameplay."

On paper, though, the G10 sounds good. It boasts beamforming for less power output over wireless, multi-user MIMO, and even Internet of Things technology - it has a range of infrared transceivers and receivers inside that can learn the codes of TVs and

game consoles, which then lets users control those devices from the Asrock Router app on phones or tablets. That's actually a pretty cool feature.

The biggest feature, though, is Gaming Boost, which promises intelligently manage network traffic so that your gaming - whether on PC or console - can get priority over other content, and even other users. Some models will also come with a two-in-one dongle that allows handheld content to be Miracast to other screens, and also acts as an access point.



PLANTRONICS LAUNCHES NEW RIG 500 GAMING HEADSET

New headphones come with great sound, and even greater flexibility.

We loved Plantronics' previous RIG headphones, and we're starting to get awfully fond of the new RIG 500, too.

The RIG 500 is a modular headset. The whole thing comes apart, and is designed so you can replace the earcups, and remove the headband for easy customisation. Plantronics envisions the RIG 500 will be popular with pro-gamers, not only because it's very light - it weighs only 200 grams - but because the band can be easily painted or treated with team colours or logos.

It's no slouch in the sound department, and our early



hands on with the headphones delivered clear gaming sound via 40mm drivers with excellent low frequency notes. There are also two higher-end models - the RIG 500 HD with 7.1 Dolby sound, and the 500 E, with two pairs of earcups - one vented, one isolated - and a removable mic.

The RIG 500 will be on sale in this month, for \$99.

BATTLETECH KICKSTARTER GOES LIVE - AND STOMPS ALL OVER ITS GOAL

Turn-based mech combat is coming back to the PC.

Harebrained Schemes has overnight opened the Kickstarter campaign for Battletech (<https://www.kickstarter.com/projects/webeharebrained/battletech>), and a new game of giant mech combat in the far future.

This latest offering is promising to be a real return to the game's roots: a highly tactical, very technical, turn-based game of mech on mech warfare. At the moment, the game's singleplayer only, fully 3D experience, based firmly on the original tabletop game. And it comes with some good credentials in terms of the development team.

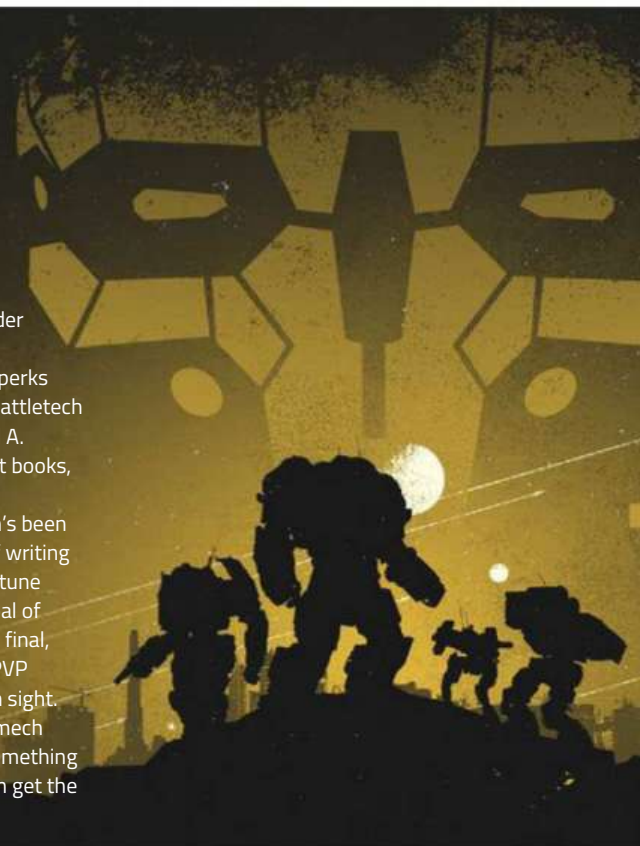
Jordan Weisman is the original creator of the game, and of Shadowrun. Mike McCain was creative director on the Harebrained Schemes' recent Shadowrun series, and

Mitch Gitelman was a producer on the excellent MechCommander series from back in the day.

And there's some very tasty perks involved, too, including a new Battletech novel by veteran writer Michael A. Stackpole, shoulder patches, art books, and much more.

Unsurprisingly, the campaign's been more than a little popular. As of writing the game's been funded to the tune of \$1.5 million, of an original goal of \$US250,000. At this stage, the final, \$US2.5 million stretch goal of PVP multiplayer looks like it's well in sight.

So if you want some classic mech tactical action, this looks like something worth investing in - and you can get the game for just a \$US25 pledge!



msi



Z170A GAMING M7

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DDR4-3400(OC)



TWIN-TURBO M.2



PCIEX16 STEEL ARMOR



USB3.1 GEN.2 [TYPE A&C]



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MSI Australia

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TEAM IMMUNITY BANNED FROM LEAGUE OF LEGENDS

Australian eSports team kicked out of MOBA for not paying players.



Well this is a bit awkward - it seems local eSports collective Team Immunity (who you may have met at more than a few of our old Atomic events) has been banned from competing in League of Legends tournaments for two years.

Over a pay dispute.

LoL developers Riot Games insists that all competing pro players receive a set minimum of cash per match played, and Team Immunity has not been living up to its end of the agreement. As reported in the official competition ruling:

"Teams in the OPL sign an agreement with Riot in which they agree to pay a minimum match payment to their players within a set period. In split 1 of the 2015

season, the OPL required teams to remit match payments to players within 30 days of receiving payment from Riot. In split 2 of the 2015 season, the OPL required teams to remit match payments to players within 21 days of receiving payment from Riot.

In both splits, multiple reports from players alleged that Team Immunity failed to pay them their owed match payments within a reasonable margin of time. Upon investigation, we confirmed that these payments were outstanding within the agreed-upon time period and that Team Immunity were in violation of their team agreement."

Riot has promised that it will find alternate arrangements to allow the affected players to continue to compete.



WARGAMING RELEASES AWESOME 360-DEGREE WORLD OF TANKS LIVE SHORT

Four tanks, forty reenactors, over two minutes of awesome.

A lot of wargamers and history nerds - like me - have always wondered what it's like to be in a warzone. Of course, we don't really want to be there, as they tend to be highly dangerous, remarkably terrifying, and generally sad, nasty places. But still, we wonder.

Well, Wargaming's come up with the next best thing - a 360-degree short film packed with tanks, soldiers, explosions, more tanks, and... you get the idea. You can check it out at our site: <http://www.pcpowerplay.com.au/409939>

"Wargaming is excited to share our passion for history, and to use innovative technology to bring history alive," said Tracy Spaight,

Director of Special Projects at Wargaming said in today's release.

"Recreating this historic tank battle in 360", with iconic tanks like the T-34 and Panzer III, will reignite the past like never before."

You can scan around the video with your mouse, but even better is watching on a mobile phone, where you can use it to look around the battlefield. Even better again, you can use Google Cardboard for a full VR experience - which is pretty neat.

We're expecting to see a lot more videos like this as VR really starts to take off, and seeing companies embrace the technology is a heartening sign that it won't be an expensive flash in the pan.

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165Hz

 **IPS**
Ultra-wide
viewing angle

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Extreme Versatility

One-touch TURBO button for instant cycling between 60-120-165Hz refresh rates and featuring DisplayPort, HDMI and 2x USB3.0 connectivity.

Intelligent Ergonomics

Ergonomic design with tilt, swivel, pivot and height adjustments, paired with super narrow 6mm bezel ideal for seamless surround gaming.

ASUS - No.1 Gaming Monitor Brand

*G-Sync requires an NVIDIA GeForce GTX 650 Ti Boost or better.
165Hz refresh requires a GeForce GTX 960 or better.

The Star Citizen honeymoon is over

Derek Smart is probably right

In May one of the CIG developers, the now legendary Disco Lando, bugged up with aplomb by releasing a game screenshot for the community, but on a teeny part of the image was showing part of a URL. It didn't take much guesswork to figure out the rest of the URL, which turned out to be a torrent address which contained 40GB of previously unseen game assets. Things like capital ships we didn't know existed, including many intended for use in the Squadron 42 stand-alone game, so it can be argued that the leak was also a bit of a spoiler for Squadron 42 events.

In any event, instead of being potential disaster, in reality it was all actually a bit of a PR win. So what if we got to see many more spaceships? The fans loved it, no real loss to CIG, and thus the company's first great stumble turned into a win.

Then, there's Derek Smart. He's on a very loud and very public mission to lift the lid on CIG's alleged poor management, leading to the game being delayed. Instead of dismissing this with your usual Derek Smart ambivalence, consider that the man's actually onto something.

Needless to say, Derek Smart is not welcome around the CIG forums, where pro-Roberts fanboyism still runs unassailably strong. Some of the die-hardests even started up a change.org petition demanding that Smart "desist in his ongoing actions against RSI and Star Citizen". Meanwhile on the Star Citizen Reddit there's a big important poll going on debating whether or not any mention of Derek Smart should be banned.

Smart is doing this because he wants eyeballs on his Line of Defense game. Which is a dick move. It's a shameful,



disgusting, cheap and dirty tactic, but it's working. While almost all Star Citizen fans will stay well away from any game associated with Smart, and help spread the word against it, he has vocalised a growing concern many of us hold. Line of Defense is of course absolutely terrible and nothing can save it. There may even be a rigged Metacritic vote. That's the depth to which this has sunk.

It is true, too, that Smart is addicted to the spotlight and when he figured out this golden ticket to internet fame was probably quite pleased with himself.

But it's also true that Smart has some valid points. Star Citizen is late. It is blowing out with feature creep, taking it

unmistakable and uncomfortable vibe of 'do as I say, or else'.

Recently a couple of relatively high profile designers left the company, and one of them wrote an in-house memo that was leaked online. In it, he describes an intolerable workflow process where Roberts not only must approve everything, but also micromanages every minutiae of the process. As an artist, he was particularly critical of the adulteration of the creative process. The artists' initial concept should be sacrosanct, but Roberts allegedly changes so much in the process that it comes out with a completely different look, feel and vibe to what was intended, is an incoherent design-by-committee jumble of ideas, none of which look like they were designed by an artist, and not to mention that this all adds weeks to the process, and infuriates staff.

I agree. I've pumped over a grand into Star Citizen, and I'm in it to play the ultimate space game. But there's not one ship design I like – and I, like most of you, love all spaceships. The only ones that are actually any good are those designed by the community in contests. In other words, the ones Roberts hasn't had a chance to mess with. He may love spaceships, but he's not an artist, and has clearly shown he has no artistic talent.

This apparently pervades the entire company. Nobody has the authority to sign off on any aspect other than Roberts – if the post is to be believed – and that's what's slowing the game down, and festering discontent within the company.

Chris Roberts needs to delegate and trust more. He may be living a dream, but he also needs to realise that his vision may be all-encompassing, but it can't afford to be all-involving. **PC**

■ With Roberts, there was an unmistakable and uncomfortable vibe of 'do as I say, or else'. ■

far from the core game that won it praise in the first place. Most concerning of all, the veil is being lifted on allegedly alarming workflow practices at CIG.

All Star Citizen fans have seen the design studies that RSI post occasionally on its site. They show spaceships as they progress from concept art to 3D model. Weeks or even months of development of a single design is distilled into a tight dozen slides for us to enjoy, each annotated by key stakeholders having input. I remember at the time I saw the first thinking how meddling Chris Roberts was. All other team member's comments were over-ridden by Roberts, and there was an



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The Man Who Fell to Earth

With Konami slowly withdrawing from AAA development, fans are wondering what will happen to Hideo Kojima, the punished boss of our imaginations...

To many gamers, the recent actions of Konami's executives seem unhinged. After releasing a stunning demo for Guillermo Del Toro's *Silent Hills*, they turned around and cancelled the entire game. After years of build up, they released *The Phantom Pain* with a rushed and unfinished story. And now, with the departure of technology czar Julien Merceron, they've made it clear that they no longer see the Fox Engine as being instrumental to the company's future.

In an age where off-the-shelf middleware solutions are abundant, developers who cultivate their own proprietary engines are making a statement: that they value their independence. Rebellion has been maintaining and upgrading the *Asura* engine since the turn of the century. Paradox created the *Clauswitz* engine to deliver historical real-time strategy games of Byzantine complexity. Stardock and Oxide have been toiling away on the *Nitrous* engine to make the most of 64-bit and DirectX 12.

With your own custom-made engine, you can prioritise what you value the most – in the case of Hideo Kojima, that happens to be arse-crack-rendering and bear-Fultoning. Kojima alone had the insight to splice a Tom Clancy-esque franchise with *Pokémon*, but that meant nothing to the suits. They had such a potent fusion of technology and genius at their fingertips, and they threw it all away. It's like having your very own unstoppable nuclear-armed war machine, and selling it for scrap.

At first it all seems crazy, but when viewed through the lens of Konami's broader corporate strategy it all makes perfect sense. Konami is a company.



Companies exist to make money for their shareholders – as much money as possible. Konami management have determined that they can extract the best return on their investment by focussing more on their other business units, which include fitness centres and pachinko gambling machines.

High-end Triple-A games can be profitable, but not as profitable as these other ventures. And because the games industry is hit-driven, there is always an element of risk.

It makes more sense to concentrate on mobile games. They cost less to develop. They are more exploitative, once you figure out how to harpoon a few whales.

■ Sahelanthropus, like its evolutionary namesake, only reached its full potential by rising to its feet ■

And they are still a perfectly good incubator for nurturing new IPs, as we have seen with *Angry Birds*, *Fruit Ninja* et al. Certainly, *Candy Crush* might not really be a 'game' in the same way that, say, *Dwarf Fortress* is. But which is more widely known? Which makes more money? Which would you rather have in your superannuation fund?

From a business point of view, jettisoning Kojima and Merceron makes perfect sense. Criticism at the move thus largely comes from those concerned that all this will degrade gaming as an art-form.

Konami is not the only company to conclude that deep, complex, cutting-edge video games are a poor vehicle for monetising a franchise. Taito recently


launched a line of *Space Invaders*-branded scratch lottery cards, and *Warcraft* has now evolved into its final form: a freemium card game.

It now seems that the inevitable fate of all successful IPs is to be transmogrified into a marketing apparatus for state-sanctioned gambling.

To the nerd at heart, there is an acute, bitter-sweet sense of loss that accompanies any abandoned high-tech venture. The *Avro Arrow*, a revolutionary fighter jet scuttled for purely political reasons. The *Concorde*, an airliner doomed by the economics of supersonic travel. And now the Fox Engine, left to rot because slot machines make more money than sneaking sims. Such an oppressive sense of loss accompanies all wasted potential: "For of all sad words of tongue or pen, The saddest are these: 'It might have been!'"

What's next for Hideo Kojima? He is not the first elite game designer to escape Neo Konami's clutches. *Castlevania* creator Koji Igarashi launched his new game project on Kickstarter, and the response from gamers was phenomenal: over US\$5.5 million in pre-orders. If Kojima launched a Kickstarter, he could gross ten million, easily. There would be no limit to his ambition.

Kojima isn't subtle. He planned out the *Metal Gear Sahelanthropus* sequence over two years ago, around the time he must have come to realise that he didn't have a future at Konami. *Sahelanthropus*, like its evolutionary namesake, only reached its full potential by rising to its feet.

The clues were there all along. Kojima intends to move forward. For you are never so tall as when you stand up for yourself... 



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UNDISCOVERED COUNTRY

Having dominated all eras of historical strategy, the devs at Paradox are now setting their sights on conquering the future. We talk to **Henrik Fåhræus** about how Stellaris is going to deliver gamers a whole new universe of possibilities...



WHO HENRIK FÅHREUS
WHERE PARADOX INTERACTIVE
WHY STELLARIS

One of the great success stories in Swedish games publishing, Paradox has captured gamers' imaginations with the myriad intrigues made possible by Europa Universalis and Crusader Kings. But until now, Paradox strategy games have been largely rooted in history. So when we had the chance to interview Stellaris game director Henrik Fåhræus, we felt compelled to ask: Why make a futuristic space strategy game? And why now?

"We have always had a long-term ambition to cover the entire 'human timeline' with our games, including the future. So, for us, making Stellaris feels like a natural step. It's something we have both wanted to do internally and that our players have kept asking us for. Many of the features in Stellaris should be instantly familiar to our faithful player base, but we also hope to reach new demographics. The early stages of the game play more like a traditional 4X game, with the player starting out small on a single planet. This allows us to gradually ease new players into the kind of deep gameplay mechanics we are known for, rather than to instantly overwhelm them (which is hard to avoid in asymmetrical games like EU4.)"

No longer shackled by historical realism, Henrik's team had the freedom to play with game concepts that had previously been out of reach.

"Most obviously, the future is unknown, so in Stellaris we are focusing on the sense of discovery, and doing everything we can to make each new game feel unique. We can go wild with procedural generation and technological progress. When working with historical games, you also have to struggle with the problem of hindsight (like in Hearts of Iron, where we all know that Nuclear weapons were possible and might be a good idea to research, for example) and keeping things at least somewhat plausible. The only

constant, I suppose, is human nature (at least if you are playing as the humans!) So, like in Victoria, your population will feature heavily in Stellaris, but how will you deal with, for example, xenophobia when you introduce bug-eyed aliens into the mix..?"

The sci-fi setting also gave Paradox the freedom to play with a whole new aesthetic. "Mass Effect is one of our influences for the various alien race portraits, as are movies like Oblivion (think of the GUI they use on the computers in that movie), and Tron: Legacy (for the music.)" Yet with this blank slate came new challenges, not least the problem of how to give the player a sense of controlling a distinct 'nation' in space.

"I'd say our biggest challenge is to

■ No longer shackled by historical realism, Henrik's team had the freedom to play with game concepts ■

create enough variety in the procedural content while at the same time providing players with the same sense of identity and immersion they might get when playing, say, Scotland in EU4. That is, keeping everything fresh and surprising, yet somehow familiar. It is, of course, especially hard if you are playing a tentacle faced alien race. A partial solution is to make you discover more about your own species as you uncover the mysteries of the galaxy..."

As the tractless wastes of space are devoid of conventional terrain features like oceans and continents, Henrik's team had to concoct new ways to make the galactic map meaningful. For starters, players will choose one of three different types of

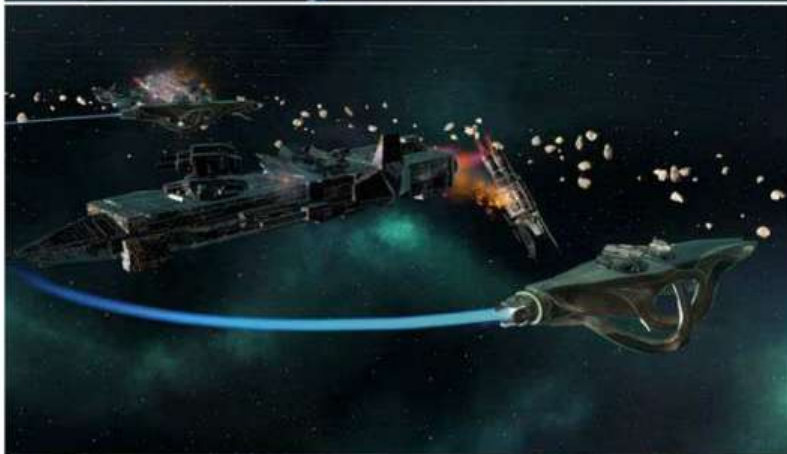
faster-than-light travel for their space civ – Warp, Hyperlanes, or Wormholes – and this decision will have profound consequences.

"The choice of FTL type will obviously affect your expansion in the early game, as you explore and colonise other solar systems. However, it gets really interesting when you start having to think about defending your territory against other empires. If you can predict where enemy fleets will arrive in your own systems, you can build appropriate defensive installations, etc. The only actual 'terrain' equivalent we currently have is the Nebula."

Beyond the nuts and bolts of economic and military domination, each play-through will be unpredictably unique. "Stories can emerge without any scripted content. Basically, anything memorable that occurs in the simulation can make for a little story in your mind (an anecdote). This is a topic of particular fascination to me and something that I think about a lot, particularly when these memorable gameplay situations start interacting with scripted 'storylets'."

"In Stellaris, this might take the form of a scientist defecting through a scripted event and disappearing into unknown space, only to later show up again at the head of an alien armada from another empire (where he might have arrived seeking asylum and thus involved that player in the same branching story, etc.). This might happen just as your main fleet is off fighting pirates, leaving your home planet undefended... or not. There is usually no need to make these scripted storylets mesh perfectly with each other; interesting situations are bound to occur anyway."

The game is built on the latest version of the Clausewitz engine, and Henrik was quite proud of how Paradox's in-house technology will enhance the Stellaris experience. "I think people will be pleased with streamlined and stable multi-



player experience. Then there are loads of graphical improvements, of course. Stellaris is by far our best looking game so far. Other improvements include easier mod development, such as automatically reloading script files when they are altered, instead of having to reload the game each time."

Of course, all this progress is for naught if a developer can't solve the fundamental conundrum of the 4X genre: how to make the end-game interesting. Just how do you challenge the player once he's built up enough momentum to crush all opposition?

"That is indeed a huge issue in most types of strategy games. In Stellaris, there are many countermeasures in place. For example, as your empire grows, your population will grow more diverse, and various factions will form that can create internal problems for you to deal with. Perhaps it would be better for you to grant some of these factions semi-autonomy as vassals or protectorates? Civil wars will be common in Stellaris, and a certain degree of decentralisation will be encouraged.

"Then we have the concept of 'late game crises' and risky technologies. For example, using robot workers is fine and dandy, but can they really be trusted? Just when you think domination of the galaxy is assured, some major threat is likely to appear and shake things up."

There are also new ways to take over the galaxy, other than outright conquest – take the new Federation game mechanic. "Federations are a more involved type of alliance, where several empires join together under a common President. While each empire is still autonomous to some degree, they basically share foreign policy. The Presidency rotates between the member states depending on their relative size. There is a special Federation Fleet, which is controlled by the President and designed using the best technologies from all member empires. This fleet is thus likely to have an edge over even huge empires, which will tend to research at a slower pace and with less technological diversity than several federation members can achieve together. The idea is to encourage a cooperative playstyle (and victory) for those so inclined. Of course, not all races are likely to join..."

And will there be any form of early-access, or community play-testing? "It is likely that we will invite people to a closed beta in the months before release. That model has worked well for us over the years."

All in all, Stellaris looks very promising. But will it make it to market in an orderly and timely manner? With the cancellation of Runemaster, and the lengthy delays afflicting Hearts of Iron 4, we felt we needed to ask how Henrik was going about keeping the scope and content of the game under control.

"Well, as Game Director, it is my job to come up with all these cool and wild ideas. The other designers iron out the details, the project manager determines the needed amount of time and resources and the budget people then say yes or no. However, having personally worked in almost all project roles over the years myself, I have a pretty good understanding of what is possible to achieve and what should remain on the cutting room floor."

For more information on Stellaris, visit StellarisGame.com. JAMES COTTEE

Selective Memory

Who is the new King's Quest series for? Nostalgic gamers, new gamers or me when I was ten?

Have I told you my King's Quest 2 story? I've been writing this column for eight years, surely I have. It's one of my favourite memories of my dad and it consistently makes me feel like a less adequate parent than he was. Essentially, it was 6am on a Saturday morning and tiny Meghann was crying her eyes out. Why? I'd finally navigated the poisonous brambles, being blissfully unaware of the whole snake, bridle, magic sugar cube thing, and I had loaded the game I'd meant to save over, thus sending me back to the beginning of the maze.

My dad actually got out of bed to painstakingly replay it for me. By contrast, when my kids hassle me about Minecraft updates at perfectly reasonable hours of the day, I generally find some excuse to immediately go and pull weeds out of the garden rather than try to recover my account. (I forgot the password.) "Too hard, talk to me when my hands aren't all dirty, OK?" King's Quest was more than a series of games to me. It's all tied up with my childhood identity; waiting for a new game each Christmas, expertly showing them off to the kids on my street, all that stuff.

So, wow, the first episode of The Odd Gentleman's King's Quest series recently came out. As someone who has played a lot of fan made King's Quests, it was initially hard to discern whether this was, "just another reboot," or something more like Telltale's Monkey Island series; an enduring attempt to make parallel and modernised content. It's definitely the latter. In fact, it's largely indistinguishable from a Telltale game, with the cutscenes and the quick time events. Most interestingly, Graham is narrating his own prequel. This all



creates so much weirdness I don't know where to start.

I mean, the title is, "A Knight to Remember," which references the way the King's Quest titles were puns on phrases, while also being true; I remember Graham. There is a point in this new episode where he nearly introduces himself with his full name. Uh, he has a full name? I had to go looking on a Sierra wiki. So, Graham's last name is, "Cracker," presumably in a way that was never meant to be known by players. Ten year old me is glowering, I'm sure. The meta-humour doesn't stop there. "Before you ask me a thousand questions about that hatchet, I did not go around using it on everything."

it was 6am on a Saturday morning and tiny Meghann was crying her eyes out

Learning more of Graham's story in a modern gaming context is certainly one way to do it. The graphics are pretty damn beautiful. Younger me definitely enjoyed watching games art evolve very gradually. And I was also inexplicably killed in the first five minutes of this newfangled thing for picking the wrong wheel out of a choice of two. 80s Meghann understood death, but more in terms of eating the pie and having no idea why the game was unfinishable. (I'm sure I've told that story.) What about invisible walls? My former self still expects to be able to squeeze through any deliberately subtle gap 2 pixels wide.

Also, Graham's granddaughter, who is listening to the story, is roughly how old I was when I played the games. My

dad never narrated them. We played together, but silently. Ultimately, I imagine I would have seen this game, in 1987 or so, as a Disney movie. Younger me liked movies but not as much as she liked games, exactly as they were. She also never would have learned to type by mashing S over and over, that's for sure. She may have appreciated autosaves, however, if they'd prevented her having to replay the bramble maze.

Maybe the weirdest thing is that I'm having trouble remembering just how much Graham is exaggerating about what actually happened. He's forgotten the details and so have I. Was all that messing about really what happened with the dragon? I remember it being much less convoluted and entirely without the mattress surfing sequence. One thing I know for sure was that he was made from about 20 pixels and his skin was bright yellow. He wasn't goofy. He had exactly no personality. My memory of especially the early King's Quests was that they were beautifully empty experiences.

Of course, memory is a funny thing. I asked my dad, this week, if he remembered helping me with the poisoned brambles at 6am one Saturday morning and he was like, "Ooo, yes, grumble grumble, too early." I don't remember him being grumpy about it. Am I better off for knowing his perspective on that experience, or should I never have asked? Which is more valuable, rosy, nostalgic glasses or a mature appreciation? Either way, the fact that he still dragged his butt out of bed hasn't changed, nor has the many hours I spent walking through a more peaceful Davenport with little, yellow Graham. Just Graham. PC



MEGHANN O'NEILL would happily get out of bed at 6am to play RimWorld with her children, though. Did you know you can domesticate mullalo in Alpha 12? Kinda like the weird rabbit I don't actually remember Graham riding.

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A Collection Aside



You'd think **MEGHANN O'NEILL** had themes in mind when she chose these independent games, but their similar aspects are usually just co-incidental. Two of this month's offerings are Australian and centre on creatively hacking your way to (often) self-determined goals. The other two are about girls and their cats, only in completely different ways. All that we're missing now is some kind of a game where you have to hack into the soulless corporation who has stolen your cat.

HACKNET

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In many games genres, when you're stuck on a puzzle there's not much else to do. Sure, you might walk around, read descriptions of environmental objects or have a familiar conversation with some minor character, but what's the point? It's 2015, just get a hint. Of course, if the game inherently encourages experimentation alongside its main quest, then you could get busy making proper mischief instead. The process may even lead to some new discovery or technique to use later.

In my case, I couldn't figure out how to give someone a fraudulent degree from Manchester University, so I messed with a prominent fast food outlet's website until it was named after me and its slogan broadcasted my awesomeness. I discovered how to do this after examining the help command more closely and becoming inspired to modify files remotely. Then, there was a tangential mission which allowed me to use this new knowledge, and I was no longer stuck, no hints required.

This roundabout approach to progression highlights Hacknet's clever structure. Simply, a posthumous message shares tools to start you on a path of prying and light troublemaking, to the backdrop of a larger mystery. You're a script kiddie, messing with the school's IT department and using programs provided by loosely organised hackers. The initial narrative centres around the idea that people use obvious passwords, search the term "boobs" a lot and are interested in the size of each other's testicles.

I was expecting a story more akin to *Digital: A Love Story*, but Hacknet uses mostly tongue in cheek, childish humour. Oddly, once I started conceptualising the game more as *Papers, Please*, in which the repetitive tasks are infrequently interrupted by Bit's trail or an incredible puzzle, it made

RELEASED



a lot more sense. Trawling endlessly through death records and medical databases highlights both the banal reality to "hacking" while making actually important discoveries seem properly special.

The narrative pace does accelerate towards the end of the game, however, and the increasingly complex music also reflects this mood. I found the change from ambient electronica behind my messing around to proper, thumping electronic rock in the final mission to be very evocative. The mechanics may be similarly repetitious throughout the game, but there is definitely an increased

urgency. The eventual mastery of your tools lends a sense of power to the process.

Some of the puzzles are really satisfying, too. Early on, I annoyed a guy who then targeted me with his malicious software. Suddenly, all of the point and click shortcuts became unavailable and I had to solve the problem entirely with keyboard commands I'd only half been paying attention to. The solution was a combination of every technique I'd learned in the game thus far, as well as reliance on an archaic understanding of DOS commands.

So, Hacknet may invite experimentation but you're also expected not to dig yourself a hole you can't climb out of. Were there negative consequences to making myself the figurehead of a chicken dynasty? Not that I noticed. What happened when I accidentally deleted a file I was supposed to be uploading to a secure drop site? Well, I couldn't figure out how to recover it and had to load back a really long way. This is a uniquely punishing experience, so proceed with caution.

I had to solve the problem entirely with keyboard commands I'd only half been paying attention to

SATELLITE REIGN

DEVELOPER 5 LIVES STUDIOS

PRICE \$30

satellitereign.com

■ You know me, I'm pretty hardcore, right? I play games on the challenging difficulties and generally understand how things work, shooters notwithstanding. *Satellite Reign* is the first game in a while that I've nearly chickened out of writing about. As the tutorial wound up and I was left in this massively open world with an intimidating array of missions, I was seriously considering suggesting to the editorial staff that they find someone else for the game; someone more competent.

But that was hours ago, and before I completed a tremendously exciting Wyvern quest with (almost) only my Infiltrator. Let me tell you about it. I'd just levelled her with Master Thief so that she could safely use zipwires, mitigating the risk of a nasty fall into the line of sight of a camera or patrolling goon. And, crucially, I'd given up on Wyvern's tricky front gate with its many cameras and was scouting around the Eastern edge of the compound instead.

Thus, I found an open entrance and a little break in the patrol, so I left the other three members of my party outside and sent her up an elevator. Amazingly, a zipwire then led down to a platform with the target directly below. Too easy, of course. She hacked a security terminal there, but the door remained locked. Realising I'd need to find the other terminals feeding into the target, I sent my Support guy back around the outside of the perimeter to find them with his World Scan ability.

Sure enough, a second terminal was westward so I crept my Infiltrator around a camera and towards it. The patrols were meticulously regular this far into the compound, so when she attracted a guard's attention, I found cover and nervously waited until he'd stopped searching. It was risky because hacked terminals only stay compromised on a cooldown timer. But, she



made it to the second terminal, up another elevator and down another zipwire close to the target.

To my chagrin, the target was still red, but there was a third terminal next to it. As she was hacking it, a goon came around the corner. I had time to move my Soldier into the compound, shoot him dead from behind, with a silenced pistol, and retreat before the next patrol came by. Neat. Then, the target turned green and I manoeuvred my injured Infiltrator inside and to safety very carefully. My reward was cash, a new prototype and punching the air with pure delight at my luck and cleverness.

I'm sorry for the long story, but this is *Satellite Reign* in essence. They give you a world, coherent gameplay, an abundance of possible missions and four diverse characters to build and use how you will, as the leader of a soulless corporation. Siphon money from ATMs, then break into the bank for a better return. Bodyjack civilians to use their unique stats with your operative's minds. Or, try your luck with all guns blazing. Every RTS and stealth gameplay approach is catered for.

So, settle back in your chair to the pattering of soft rain and fluoro women gyrating hugely on black concrete skyscrapers to find your flavour of ruthless domination, in this spiritual successor to the *Syndicate* series. The story is only incidental, like seeing a shop named, "Top Notch Cherries," and wondering why it seems so out of place, but your focus will never otherwise waver from who can hack, see, manipulate or use what, in pursuit of your next, incremental goal.





BEYOND EYES

DEVELOPER TIGER AND SQUID
PRICE \$15
www.beyondeyes-game.com

■ One day, when I was in year eight or so, our music teacher turned up to school with his bike helmet under his arm and covered in mud. Surprisingly, he was in good humour and when we asked what had happened, he said he'd deliberately crashed into a ditch to avoid, "the blind guy," in our year who was also riding to school. I remember being amazed that my peer would go anywhere near a bike. Having to wear glasses myself, I understood this just enough to make me afraid of it being worse without actually being able to imagine what it might be like to be him, at all.

I've mentioned this school friend in the magazine another time, when I was trying to explain how *Push Me Pull You* is a game made for people with unique bodies and I provided the example of his Blind Cricket club. They could kick anyone's butt, if inexperienced, because the game is about listening, practice and concentration, not seeing the ball.

Beyond Eyes is a game for people with partial or no sight (with a friend), as it provides a rich palette of colours and sounds to enjoy, as well as also allowing all players to engage with some of the protagonist's experience.

The game begins with Rae, who is about ten years old, being injured by fireworks. She spends some time in hospital, then is outside

her home in a beautiful garden and with a ginger cat. Typically, the cat keeps running away and she wants to follow it. She calls to it, intermittently, and it meows. Controlling her in third person view, you can see the area close by and around her feet but the rest of the level is white. When something makes a sound, it appears visually, often briefly. Sometimes what appears isn't what is really there, however, it's only what she imagines the sound to be.

Soon enough, the front yard is all coloured in. She remembers what she sees, so the visuals remain after you pass by them. It's clear she isn't completely comfortable there, however, as she walks very slowly and raises her hands cautiously as you approach objects. As you explore, story is delivered as text and seasons progress. Snow falls, flowers bloom and the garden changes seamlessly as you discover it. In Spring, the cat leaves the garden and Rae decides to follow. She navigates menacing sounding animals and joyful sunlight, and her posture changes to reflect her mood, as does the colour scheme and music.

There's very little "gameplay" beyond a sense of disorientation and the drive to find the cat. It's occasionally frustrating, like when I seemed to be enclosed by a loop of fencing, but I imagine Rae's experience of life might be frustrating at times, too. Or, enter the chicken coop, just to enjoy the childish sensation of being with animals.

RELEASED



This portrayal is always as positive as it is negative. I'd say that Rae's role challenges what it means for a game hero to be brave, but that would be condescending and inaccurate. She's frequently frightened, often joyful and just herself.

Like Rae, "the blind guy" from my school days wasn't completely without sight. I remember him turning his head to look at you from the side. I also recall him chiding our music teacher for panicking unnecessarily when their paths crossed that morning because he had felt in control of his bike. Can the interactive nature of games foster greater empathy between people? I think so and I'm glad *Beyond Eyes* gave me an opportunity to reflect on what the world might have been like for my friend in year eight. Or his experience may have been different, I'm not sure, but I'm glad to wonder.

FRAN BOW

DEVELOPER KILLMONDAY GAMES

PRICE \$15

www.franbow.com

■ Co-incidentally, this month I played a second game about a little girl searching for her kitty but, wow, it couldn't be more different. For example, Rae might recoil sweetly at the sound of a barking dog, where Fran will steal body parts to brew a potion capable of making conjoined twins spew black ooze into the sky. This adventure is set in an outrageously dark, but weirdly lovely, place. Expect everything from an asylum guard's creepy invitation onto his lap, to harassing a baby pinecone.

This is not to say that Fran Bow isn't a sweet girl. Amazingly, she really is and she loves her cat very much. She's just also very troubled. The year is 1944 and children are expected to blindly trust the adults who are committing a smorgasbord of atrocities against them, especially according to contemporary wisdom on mental health. Horribly, some characters even believe they are acting in the children's best interests while completely misunderstanding the context of their reality.

The story is difficult to summarise, especially without spoilers, but it is compelling and intricately structured. It opens with Fran's parents being graphically murdered and she is held in a home for the criminally insane, surrounded by other kids who share delusions of terrifying creatures. Soon enough, Fran finds herself "outside," in the grandest sense. Reality is refreshingly unknowable but, more importantly, she eventually grows into a simple acceptance of herself and her surroundings.

The artwork is absolutely gorgeous, colourful and detailed. There is a glut of diverse locations, all beautifully rendered, as well as an inventory full of intriguing stuff. Gameplay is typically based on

RELEASED



All doors are closed. You are a prisoner of my games...




■ The entire game is a metaphor I was mostly content to not really ever understand ■

finding, examining, combining and using whatever works, from makeshift contraptions to ritualistic structures. You are not allowed to pick up things you don't know you need and puzzles unfold logically. It's quite difficult, in places.

An additional feature allows Fran to toggle between being on and off her meds. By opening or closing her pill jar, reality shifts. Without meds, she may be in a beautiful house, eating cupcakes. With, she may be at the bottom of a stinky well, stealing a frog's heart to use back in the house's kitchen. They are the same location, just two radically different perceptions of it. It allows for significantly deeper play, even if it is somewhat incongruous.

Or does it make sense? That's probably my enduring question. Maybe it does. The entire game is a metaphor I was mostly content to not really ever understand. Why? It is the minutiae of Fran's experience that I wanted to engage with. She finds a Bandaid for a

girl who is cutting her wrists because she needs to borrow a green crayon. I get that on a number of levels. She endlessly talks to soft toys as if she both loves and fears them. Makes perfect sense to me.

Fran Bow is a special experience that is both entirely coherent and incomprehensible. I would recommend it to anyone who enjoyed Edna and Harvey: The Breakout, Bad Dream Series or The Cat Lady. You may finish the game feeling like you missed something, but you will also have found some other reason to be glad you played. For me, I was reminded (by a tree) that you know you are still alive because you can feel love. Also, that branches are as good as arms if that's all you have. Definitely that too. 



10 to Watch



EDGE OF NOWHERE

DEVELOPER INSOMNIAC GAMES
PUBLISHER OCULUS RIFT
DUE TBA

www.insomniacgames.com/games/edge-of-nowhere

Insomniac games, a company best known for console games, is turning to VR for its next project. Edge of Nowhere is a mix of light platforming and Lovecraftian nightmare with a lone Antarctic explorer facing perils both natural and distinctly otherworldly while on some sort of rescue mission. The most interesting aspect of Edge of Nowhere is how the VR headset is being utilised. The game is in 3rd person, so the players head will essentially work as a right thumbstick controlling the camera.



DEVILIAN

DEVELOPER GINNO GAMES
PUBLISHER TRION WORLDS
DUE BETA

www.deviliangame.com/en

There have been a few MMOs so far that have tried to meld traditional MMO structure with Diablo style ARPG mechanics, but Korean import Devilian looks to be the first that has really nailed the concept, with extremely solid ARPG gameplay in a rather lovely looking world. Only four character classes are available to play, but each can be extensively customised in both looks and ability so there should be a lot of variation available.

SKYFORGE

DEVELOPER ALLODS TEAM, OBSIDIAN ENTERTAINMENT
PUBLISHER MY.COM
DUE BETA
sf.my.com

Another MMO with an action bent, Skyforge uses an interesting combo system for its melee classes. Each class has an ability keyed to the left and right mouse buttons with the order and frequency with which they are used triggering different final moves in the combo sequence. The ranged and healing classes appear to use a more standard hotkey and cooldown style of play, but even so, Skyforge looks pretty damn keen.



BLACK WITCHCRAFT

DEVELOPER QUATTROGEAR
PUBLISHER QUATTROGEAR
DUE 2015
www.quattrogear.com

Our Korean is a little rusty so we're not entirely sure what the plot of this beautiful looking 2D side scrolling brawler is, but from the screenshots it looks as though the Gothic Lolita main character is fighting against some kind of Poe inspired nightmare with a magical transforming briefcase weapon. Whatever the case, Black Witchcraft looks beautiful, and the fact that the final boss is Death itself is just icing on the cake. We're sold.



FORMA8

DEVELOPER MIXEDBAG
PUBLISHER MIXEDBAG
DUE TBA
www.forma8.net

An absolutely stunning looking action adventure game, Forma.8 casts players as the tiny exploration probe of the title. Alone on a dangerous planet, Forma.8 starts with no abilities other than being able to fly but throughout the adventure players will be able to discover multiple upgrades to the probe, allowing it to fight back against the hostile wildlife and ancient alien secrets as well as open up other Metroidvania style avenues of exploration.

SLAIN!

DEVELOPER WOLF BREW GAMES
PUBLISHER DIGERATI DISTRIBUTION
DUE DECEMBER 9, 2015
www.wolfbrewgames.com

A stunning looking pixel side scrolling action platformer, Slain! is the work of a three man team made up of ex AAA developers and is intended to capture the gory fun of violent 90s side scrollers such as Altered Beast and Shadow of the Beast as well as the difficulty of Ghosts and Goblins. The pixel art is gorgeous and the combat look like it not only captures the spirit of its inspiration, but also brings to mind a little bit of the Souls experience.



SEVEN DRAGON SAGA

DEVELOPER TACTICAL SIMULATIONS INTERACTIVE
PUBLISHER TBA
DUE TBA
www.tsi-games.com

Although TSI, a dev team made up of veteran SSI developers cancelled their Kickstarter campaign to fund Seven Dragon Saga earlier this year, work on the spiritual successor to old school SSI Gold Box D&D games continues apace. The team is working to get a solid prototype build finished before relaunching their Kickstarter campaign. Fingers crossed this happens soon – we need more old-school RPGs to live.



ANARCUTE

DEVELOPER ANARTEAM
PUBLISHER ANARTEAM
DUE 2015
www.anarcute.com

Katamari meets riot simulator in Anarcute, a game about starting city destroying riots with cute animal characters. From what we've seen, the game looks to work around a Katamari style accretion mechanic, with the player adding more rioters to their scrum as well as picking up objects to make their rioting more destructive. For something with a pretty grim theme, Anarcute looks totally adorable and we can't wait to have a play.

SUPERNOVA

DEVELOPER PRIMAL GAMES STUDIO
PUBLISHER BANDAI NAMCO GAMES
DUE BETA
supernovagame.com/beta

Primal Games is looking back to the roots of the MOBA genre with Supernova. Whilst the game features the familiar three lane format, hero characters (called Commanders) and creeps, it differs from other MOBAs in that it really embraces some RTS mechanics as well, with players having control of what minions spawn in each wave. The game also doesn't have an item shop, so each upgrade is directly from attribute and skill points earned in combat.





THE LONG DARK

DEVELOPER HINTERLAND STUDIO INC.
PUBLISHER HINTERLAND STUDIO INC.
DUE EARLY ACCESS
hinterlandgames.com

There are lots of survival games around but The Long Dark is shaping up to be one of the most beautiful and haunting. In the wake of a geomagnetic catastrophe, the player must survive all along in a frozen wilderness. Rather than zombies, the go to baddies of all too many survival games, the only villain in The Long Dark is Mother Nature herself. The environment is hostile and the animals inhabiting it are just as hungry as you are.



A SONG OF ICE AND FIRE

ALEX MANN says the more *hic* Estus the better *hic*

Dark Souls III

DEVELOPER FROMSOFTWARE
PUBLISHER FROMSOFTWARE, BANDAI NAMCO ENTERTAINMENT
DUE TBA 2016
xxxxxxxxxx.com

When talking Souls, be it Demon's or Dark, it's hard to avoid the subject of difficulty. To the casual observer, frequent deaths followed by a taunting 'YOU DIED' screen makes player persistence seem borderline masochistic. Add this to the tantrums thrown when a Souls game aims to be more "accessible", and it's easy to misconstrue intentions. But those more experienced with Dark Souls as a series know better. So, to get this out of the way: is Dark Souls III difficult? You bet it is. In the five or so hours spent with the title I was stabbed in the back, burnt to a crisp, frostbitten and even torn apart by tentacles. But it wasn't the difficulty that kept me pushing through, nor the variety of ways in which I died (although it does keep things interesting). It was everything else around it.



A WHOLE NEW WORLD

Our preview began in a dark chamber, where upon an altar sat a twisted, bonfire sword. But instead of being thrust into the ground waiting for a desperate warrior to kindle the flame, it rested against a large bowl with its point facing upwards.

This took me back to the Gamescom trailer, in which a warrior plunged one such sword into a corpse to ignite a bonfire-like flame. Since then, rumour has spread that this is how players will in fact create their own bonfires—or even enter other gaming worlds—an aspect which (at the time of writing) devs have been decidedly tight-lipped about. If, in fact, bonfire swords could be collected to make a one-off respawn point, this would drastically alter the game's structure, and yet the twisted blade remained there, untouchable, mocking me with its very presence.

While the two bonfires
I did end up

FIRE AND ASH

It seems fire and ash are going to be a strong focus for Dark Souls III, as not only are the health and mana Estus flasks powered by both, but Lothric's boss, The Dancer of the Frigid Valley, wields two swords: one of fire, and one of ash.

kindling simply adhered to standard bonfire mechanics, remember that this is Dark Souls, and in Dark Souls everything has meaning.

As I pushed through the large doors—two-handed Aragorn style—to exit the room, I found myself on The High Wall of Lothric. The view was equal parts spectacular and threatening: wooden corpses grew from the ground like trees taking root, their twisted arms reaching for the skies; hot ash floated through the air, singeing the seams of red and gold billowing banners; and great dragons lay draped over turrets and walls, surrounded by hollowed beings face down in prayer. From this vantage, the golden skies that canvassed the maze of barracks and balconies were reminiscent of those that looked over the famed Anor Londo, yet the spiraling towers in the distance and the darker, rustic mix of cobblestone and wood speak more of Bloodborne than anything else. Fully plated knights littered the landscape, some nothing more

than metal pin cushions with swords and spears piercing every facet of their bodies, while others still patrolled the battlements, determined to defend their keep. This place was obviously on the tail end of a horrific battle—touching on the familiar theme of a once great kingdom in decline—yet what separated this scene from the traditional Dark Souls landscape was just how recently the events seemed to have occurred.

SPECTACULAR SPECULATION

Already the beauty of Souls storytelling was making itself known, relying on the player to engage with the environment. Even outside his games, director Hideo Miyazaki is reluctant to give any concrete answers—but his signature attention to detail was evident all the way through Lothric, laying out just enough visual clues for players to piece together their own unique version of events. Progressing down stairs and ladders, through large rooms and secret paths, I began to notice that the fallen warriors wore either red or blue capes. As the banners surrounding were red, I took these to be the knights of Lothric. My thoughts on the other side formed just before entering a corpse heavy courtyard. A large armoured warrior in a blue cloak was surrounded by red Lothric knights—both sides frozen in a gruesome tableaux of death—propped up by the very weapons that brought an end to their lives. Upon entering the courtyard, I encountered the giant warrior's axe-toting twin. As before, Lothric corpses were scattered about him, only this time the imposing knight was very much alive, and pissed-off to boot. Where do the dragons fit into all this? I'm not quite sure, actually, as this is only one interpretation of events, but hidden throughout the level were tiny tombstones, each with a cryptic epitaph to help reign in some of the wilder speculation. One such epitaph read *"To honour and shadowy retreats. Fear the sun's temptations, and the Winged Executioner"* which could be read as any number of things, really.

A CLASS ABOVE

I should at this point mention that nothing listed here is permanent. The two self-contained demo builds I played offered a taste of what might come, nothing more. The deeper RPG elements such as weapon stats and descriptions, access to menus and customisation were all withheld—

Weapon arts add a new stance and powerful new moves



As before, Lothric corpses were scattered about him, only this time the imposing knight was very much alive, and pissed-off to boot

but there was a lot to be gleaned from what actually was shown. Although they were set in the same level, a lot had already changed between the two builds. While most of this was cosmetic stuff like graphics, titles and lighting, gameplay factors such as moves with a numbered use were changed to rely on a mana bar instead, and the initial two classes offered expanded to four. These were the plate clad Wandering Knight, the barbarian influenced Northern Warrior, the robed Herald of White and the Bloodborne-esque Academy Assassin, complete with tricorn hat and pole-based weapon. Despite their armour ratio, each class was able

to duck, weave and move with the fluidity found in the PS4's gothic offshoot (for those of you who went console darkside) yet the developers have made it clear that this won't be the case in the final product; weapon and armour weight will very much play a part.

The Knight and the Warrior offered standard melee options, with the first wielding sword and shield and the latter a one-handed axe and circular board. These were the no frills kind of characters that

CIRCLE MOTIONS

While the "heat up" system means bosses change tactics mid-battle, I found the old "circle around with shield raised" trick got me through the entirety of Lothric's boss battle. Hopefully later bosses will be a little more aware of this, forcing players to change tactics too.



required you to get up close and personal with the enemy, blocking, ducking and attacking to the best of your ability. The other two repp'd the magic wielders, each having three spells apiece. The Herald of White was all about holy Miracles, utilising Heal, Sacred Oath (a defence and attack buffer) and Lightning Spear—all pretty self-explanatory. The Academy Assassin was on the other side of the spectrum with three sorceries: Soul Arrow, Soul Dart (a faster, less powerful soul arrow) and Soul Great Sword, which is nothing short of a lifesaver. Both these characters were extremely formidable as the Herald's mace/shield combo and the Assassin's spear/buckler kit gave them both ranged and close-combat

abilities, yet somehow I always find myself gravitating towards the simpler things like, say, a good old axe.

ESTUS REAL LIFE?

Before we get into the intricacies of combat there's one important change that will severely alter how classes are tackled. There are now two types of Estus flasks; the first—the standard health Estus—is a flask of bonfire flame with a finite amount of sips that restore player health points. The second, an ash Estus, functions in much the same manner, only this blue vial recovers a player's mana points instead. In previous titles, magic use was governed by a number dictated on the scroll used to activate it, while simultaneously

having to juggle MP replenishment via disposable items. Now however, it seems magic use is infinite, only being limited by the amount of mana and Ash Estus left in the tank. It's a shake up that could really go either way for those who choose magic-based characters, especially if disposable MP replenishing items have been given the boot. At the very least it will change the way veterans look at building their characters, but it could also drastically affect how PvP plays out. Surprisingly enough, this addition also applies to non-magic users, though not as drastically.

SOULVADOR DARKLI

All offensive weapons, whether it be magic or physical, now have an

COLD AS ICE

In a hidden room behind lock and key lives the Frostbite Knight, a foe that doesn't really count as a boss, but proved a tougher battle than Dancer. The knight moved on all fours with the agility of a beast and his/her sword gave off a chilling new status effect, Frostbite.

alternate use that adheres to a new system known as 'Battle Arts'. While the standard combat techniques have returned (weak attack, strong attack, block, dodge) Battle Arts add a unique function to each weapon, drawing from the mana bar with every use. Take the Wandering Knight's longsword for example, when activated this Battle Art shifted the Knight's stance entirely, moving from the standard squared-shoulders stance to a guarded crouch, grasping the sword with both hands and holding the hilt high, blade pointing forward. From here players have different weak and strong attacks, changing the way they approach an enemy. The axe on the other hand triggered a berserker cry which boosted attack damage by around 30% for a short amount of time. While this was active, it also unlocked a special two-handed strong attack, which caused the player to charge at an enemy, breaking their guard before delivering a powerful downward finisher. Magic catalysts had a bit more of a supportive role, with the talisman's Art increasing character poise while casting. This worked to avoid interruption from aggressive enemies—something that could very well save a life during a desperate heal. The sorcerer wand, on the other hand worked very much like the axe, increasing the power of the next attacks, yet this time coming at the cost of greater mana use.

It's an interesting way to make a large array of weapons even more diverse. If you think about the sheer amount of swords alone in previous titles, now each one of those will come with a special ability, some that may well make up for a lackluster move-set. Personally I found the buffer abilities of the axe and wand far more useful than the straight sword's stance change, but when facing enemy knights that altered their pose (that's right, enemies get to use Battle Arts too) I found it hard to adjust my defence in time to avoid the unexpected attack, which probably means I just need to get used to things. Come PvP times, it will be absolutely crucial



Sweet 360 no scope action!

BACK OFF

The back-stab is back in a big way, with hollow grunts falling for the trick every time. The Lothric Knights however, are different story, as players who try to backstab these skilled warriors need to watch out for enemy shields, which the Knights slam backwards at anyone bold enough to try.

to understand each weapon's special, as not doing so will give opponents a guaranteed advantage. The downside is that these arts can't be used with just any shield, they either have to be activated from a two handed stance or with a specific shield that forgoes it's secondary attack—like parry—for Battle Arts functionality. Weapons also now come with a strong attack charge, an ability that is incredibly useful on enemies recovering from a well executed backstab. As we progressed we came across other weapons such as the great sword, whose Battle Art launches enemies skyward with great force, and the legion scimitars which, instead of a two handed option, allow players to dual wield, complete with a deadly spinning special attack.



THE CYCLE CONTINUES

What we saw of Dark Souls III wasn't all innovation though, there was still plenty that made the game feel like the series we know and love: clumsy hollowed humanoids came at me in hordes, climbing over walls, bursting through planks and hiding behind doors. An ash dragon that refused to die flew overhead, dishing out timed,

fiery death as the red dragons before it had in Dark and Demon's Souls. Paths twisted and windied, concealing hidden passages that looped back on themselves as well as keys that required backtracking for some special loot and secrets. But by far the greatest return for me was the sense of achievement present in every scenario. I felt this when scouring the landscape for lore. I felt this when parrying blows that would have sent me straight back to a bonfire. I especially felt this when defeating a particularly hard quasi-boss known as the Frost Knight. Sure, this was difficult, but it's not about that. It's the fact Dark Souls has enough faith in its players to present them with great challenges, knowing they will find ways to defeat, even excel, in the face of these. From the looks of things, Dark Souls III will deliver this in spades. **PC**

Q&A We speak to **Hidetaka Miyazaki**, CEO of FromSoftware and Director of Dark Souls III

PCPP: How do you weigh a challenge when designing a Dark Souls game?

HIDETAKA MIYAZAKI: In the game design of DARK SOULS, 'Challenge' is the fundamental element. To be exact, 'Feeling of accomplishment through overcoming difficulty' is the core concept. Challenge or the difficulty is prepared to feel accomplishment. I mean, there are many elements which aren't adopted after the discussion because of mismatch to the concept. 'A cut scene of the last attack and defeat the boss enemy' is one example. We thought it rather take away users feeling of accomplishment. Of course there are some games which those scenes are effective. I like that kind of game as one user, but I thought this is not the best option at least for DARK SOULS.

Is there a particularly strong influence that governs the latest title?

It is true that my imaginations come from literary works when I direct games but it doesn't mean I pick up one specific product. Of course there are titles which has strong influence like Lovecraft in Bloodborne but I

think it is too early to talk about such things in regard to DARK SOULS III and... to be honest, I'm too embarrassed to speak about this kind of thing.

Can we expect an intertwining map like that of the first Dark Souls?

Yes. A connection of the map is close to the 1st DARK SOULS. Many maps are intertwining and there are some exceptions too.

So far, NPC's have remained largely expressionless, being blank faced and tight lipped even when delivering dialogue. Is this a conscious choice or will we see a change in Dark Soul III?

Actually it is the point which isn't changed much in the DARK SOULS III. This is one of the conclusions of how I allocate our limited resources with considering the game design of DARK SOULS. However, I don't think like "it is okay to keep doing this in the future". In fact, there are titles which need those expressions being detailed, or we basically think that we don't want to set a limit on our game design.

NPC quests revolve around talking to NPCs at key locations and then summoning them in boss battles. Will this be changed at all in Dark Souls III?

We are not expecting too formalised NPCs. There will be various NPCs like previous titles. However, unite with NPC is an interesting system. I expect there are some elements in regard to it in DARK SOULS III as well.

How will Dark Souls III encourage online play?

In the DARK SOULS III, the basic online



There are no stages like Chalice Dungeons of Bloodborne

format is the same as the previous one. For example, asynchronous online elements (phantom, blood stain and message), co-op play through signing or the covenant. There are no stages like Chalice Dungeons of Bloodborne. We want to make the covenant a stimulating element which makes changes in the simple co-op/PvP play.

Players who are used to Souls titles are able to form competent characters pretty quickly. Is there anything in Dark Souls III that might shake this up?

I suppose that adjustments with a focus on the Skills will deliver new strategies or tactics to the battle of DARK SOULS. The adjustments cover a lot of ground such as weapons, items or magic. By knowing how to handle them, it will be possible for new players to surprise veteran players. I'm glad if new style of battle or the character creation will be found. It is not only from the perspective of the battle itself but also from the perspective of the role-play.

What has working with the new generation of consoles allowed you to do in Dark Souls III that you previously could not?

There are many. Graphic enhancement gave us denser world ever, and the interaction improvement provides the immersion. Also, the three-dimensional map (which is my favourite) gained a scale and the adjustment of the Skill system which contains huge motion data are realised this time. I wonder if I can talk in this way, but I am looking forward to seeing how the DARK SOULS III be with these elements. It would be wonderful if you look forward to it with me. **PC**



RUN FOR YOUR LIFE

Senior producer at DICE **Sara Jansson** free-runs over what players can expect from the Mirror's Edge Catalyst prequel.



PCPP: How does the melee system work?

SJ: It's not really a combo system. It's more about how you combine your momentum, what type of move you're using, and the environment with an attack. It's feeding a lot better into the movement system, as well. It's not as efficient to run up to a guy and start fighting as to try to get momentum, combine a skill move with an attack, then you will get a different outcome.

Does Faith, once again, have unlimited sprinting stamina?

The whole core mechanic is based around momentum. If you don't time your moves correctly, you will lose momentum, and then you will slow down. Once you have momentum and if you manage to string the moves together and keep flow, you're going to keep going. But if you're shot at, you can actually avoid bullets by stringing moves together, but then you need to be in flow. As soon as you lose momentum, that's when you become vulnerable to bullets again.

Will you be unlocking new abilities as you progress, or will you start at a base level where you've got all of your free-running abilities?

We don't really want to lock away a lot of the moves that Faith can do. Even though we don't teach them really early, players will be able to perform a lot of the moves, if you already know the game. We do have a progression system that we're not going into too much detail about. It's not primarily about the moves, it's going to be more about the glove.

The glove that has the grappling hook-type thing?

Yeah, which is more a way for us to open up more of the environment. You're going to start the game with a smaller portion of the city, then, as you progress through the main story, you're going to get upgrades to your glove that will then allow you to traverse in new ways into new locations in the city, and that way you open up more and more until it becomes your playground.

Is runner vision just the ability for her to see things in red that indicate she can jump on, over or across, or is it something different?

When we were looking at how we wanted to adapt runners vision, it quickly

Even though we don't teach them really early, players will be able to perform a lot of the moves, if you already know the game

became pretty obvious that it needed to change quite a lot because we had this free environment. You choose an objective anywhere on the map and then it will highlight objects in the world to take you there the easiest way. There are many different ways to go there, and if you choose another way, it will automatically update like a car GPS, to adapt to that route you took, and then start highlighting new objects for you. If you're a hardcore player that just wants to learn to navigate the city without it, you can just switch it off.

How do you avoid the gameplay traps of creating an origin story?

It's not the origin story in the sense that it's how she becomes a runner. It's more the origin story and how she develops as a character, so we want to make sure there's proper character development so she's not the same person at the end as when it starts. She's quite a carefree runner at the beginning. In the first game, you never really got to experience what it was like to be a runner, because you were thrown into the plot of a crime story. Here, we wanted it to be more like, you start out as a runner, you get to feel what that's like, you get to do the job, and you have your friends, and your cabal, and everything is pretty fine. But then Faith stumbles across this secret and everything starts to change. NATHAN LAWRENCE **PC**

Mirror's Edge Catalyst

DEVELOPER DICE
PUBLISHER EA
DUE FEB 23, 2016
www.mirroredge.com



BFG

Executive producer at id Software **Marty Stratton** takes us through hell with a super shotgun for the upcoming unholy Doom rebirth.



PCPP: Has any content made it over to this game from the scrapped version of Doom 4?

MS: There was stuff going into [Doom 4] that went up on the whiteboard [for Doom]. There was an advanced melee type of system. There were some technical aspects of it and some gameplay things that were not completely dismissed. Even in the development of our execution moves, our glory kills, there's still a seed of that work that still lives on. We've just taken a completely different spin on it. You get to a point like that and people feel like things are being quote/unquote scrapped. I would never put it that way because you're always a combination of everything you've done in the past. There are seeds in what we do from that project all throughout, and that work, even though people won't see it, has made this game so much better.

The multiplayer feels a lot like a Quake game. What's the difference between Doom multiplayer and Quake multiplayer?

Quite honestly, Quake multiplayer is somewhat born out of Doom in and of itself. The early Doom games, that multiplayer was very fast. It wasn't the sense of verticality that you had, but I think the speed of Quake, in a lot of ways, comes from the speed of Doom deathmatch. It's not an illogical blending. It's certainly not necessarily deliberate. In single-player, you go into these combat arenas and you feel like it's almost a multiplayer arena. When you play multiplayer, it has that similar tone. It really does come down to things like movement and weapons that are projectiles, and toe-to-toe battles. It's not the first person to see a guy and pull the trigger. You will get hit, but there are very few things in Doom that are a one-hit kill.

Except for the gauss cannon...

The gauss cannon will do that, but no other gun, right now in what we're showing, does a one-hit kill. Particularly if you're carrying armour, you've always got that moment where you can square off with somebody, figure out where they're at, and you can have an engagement. Movement is the most important thing. We want you to have escapability. We want you to have a test of skill with that other player where movement is important. If you kill somebody, they're going to drop health and you can move through to collect it.

■ Screw reloading, man. We've tested all different types of things, but the thing that felt the worst was, I forgot I ran out of ammo ■

What happened to reloading?

Screw reloading, man. We've tested all different types of things, but the thing that felt the worst was, I forgot I ran out of ammo, I'm in this badass battle with this demon and I go, 'Click. Ah!' I want to be able to shoot. When you have that attitude it's like, yeah, we don't need reloading. It doesn't make you feel more powerful to reload your gun.

Which is great for multiplayer, too, right?

It's the same thing in multiplayer. You're in these fast, frenetic battles. We just don't need you to have to worry about [reloading]. Equipment is interesting. The personal teleporter is an interesting one because it's a little bit more tactical. The grenade is a little bit more out there, run-and-gun assault type of feel, then there's more equipment that we're not showing. The combination between your two weapons in your loadout and then your equipment, you've got these three tools, and then the mods on top of that with the guns that you're always kind of switching between and thinking, 'How can I use this cool combination of things together to be effective?'

Will there be dedicated server and LAN support?

The infrastructure is a dedicated server-based infrastructure. Beyond that, it's still a little early to go into too much detail.

NATHAN LAWRENCE **PC**

Doom

DEVELOPER ID SOFTWARE
PUBLISHER BETHESDA
DUE 2016
doom.com



THUNDER STRUCK

Heidi Kemps talk to **Seth Killian** about the upcoming competitive focused PC fighting game

Would you say that *Rising Thunder* is an answer to "problems" of the fighting game genre, with things like single-button special moves and less complex inputs overall?

S.K: You could say that. To me, this game's approach is more like an alternate path. It's definitely a problem that new players have a problem getting into what is the most exciting part of fighting games. I want to try and get people into the "deep end of the pool" faster. I honestly wasn't sensitive to the barrier of entry to fighting games until recently, because I mastered the basic stuff a long time ago. But over time, after fighting games had their recent resurgence, I was thinking about fighting games more and more. "What's an interesting direction that hasn't been tried?" I was excited about this, because I really love fighting games and want people to share the great experiences I have. But with traditional fighting games, for every twenty people you introduce, only one will make it through the training process to reach higher levels of play... Basically, if fighting games are supposed to simulate epic kung-

fu battles, there's something crazy about having to practice fake kung-fu for as long as the real thing. I want people to get into the psychological aspect of fighters without worrying about finicky motion stuff.

Have you noticed this in action yet during the alpha?

There were two reasons for the alpha; testing the online play, and testing our play theories: Can the new players get into it? Do the experienced players have any interest in it? Does it get deeper and more interesting over time? Getting new players onboard right now is still a bit tough, because the alpha is... well, an alpha. It's really rough, and there's no tutorial. But we've seen total fighting game newbs go from the most basic movement and attacking to being able to put together combos and grasping the zoning metagame.

Why did you go with a robot theme for the game?

We thought it would mesh well with the game's variant system, where you could swap parts out. Since you can switch things in-between rounds, like a car going for a pit stop, it seemed natural to have machine characters. We also just really like sci-fi stuff!

Rising Thunder

DEVELOPER RADIANT ENTERTAINMENT
PUBLISHER RADIANT ENTERTAINMENT
DUE TECHNICAL ALPHA
risingthunder.com



Since you can switch things in-between rounds, like a car going for a pit stop, it seemed natural to have machine characters

What has been your philosophy behind designing the characters in the game so far, and how have they panned out in play?

We've mostly tried to stick to archetypes – rushdown characters, grapplers, and the like – with a few hybrids/oddballs, like Vlad and Crow. With the Variants, we're trying to add a bit of a customization element to further tailor characters to your personal playstyle. There haven't been any dramatic surprises so far. There are some "oh, we never thought of that" moments, of course, but in terms of overall use, the characters are being played as designed. Some of the strongest players tend to play with very uncommon builds, which has been a surprise.

Do you have any special messages for PC PowerPlay Readers who might be interested in the game?

I feel that Australians are an unhappy bunch of online PC gamers – they're far away from other English-speaking hubs of play, which means you're often just stuck playing with other Aussies. We've heard some good reports from our Australian players so far – saying it's the best experience they've had playing a fighting game online with players outside the country. We're very happy about this. Delivering a great online experience to a neglected – but no less passionate – fighting game market is important to us as a team and very exciting to me personally. HEIDI KEMPS **PC**

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Games

YOUR GUIDE TO PC GAMES



It's one thing for a game to be really bad - but it's almost another thing entirely for a game to be merely adequate. Especially when it's one I've been looking forward to.

That, however, pretty much sums up Mad Max. Even before the film Fury Road, this was looking like a really fun title, a chance to play in one of the most iconic film settings of all time, as its titular character. Issues about voices actors aside, we were hyped.

Then Fury Road did come out, and... well. If the game could deliver even a fraction of that kind of action and story-telling, it would be fantastic.

I wonder if that's part of the problem, though - Fury Road turned out to be far better than anyone was expecting, and now the Mad Max game looks flat and empty by comparison? Ah, the dangers of hype...

However, other games have managed to live up to expectation rather nicely. Armikrog is an endlessly charming love-poem to claymation, World of Warships does exactly what it says on the tin (It's a world! With just warships!), and SOMA has some pretty effective scares.

Of course then there's a game like Blood Bowl. It's an uncannily accurate simulation of the boardgame - which we love - but does that translate into a good video game experience?

You know where to look to find out.

David Hollingworth
Digital Editor

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SCORING SYSTEM | PCPP scores its games on a 1 to 10 scale. The higher, the better – though 10 is by no means a “perfect” game. We’re not convinced such a thing exists, so consider a 10 a masterpiece of PC gaming, despite its inevitable flaws. A 5 is a decidedly average game; one that doesn’t excel in any particular area, without being an affront to our senses – the ultimate in mediocrity. Below this, you’ll start to find the games our reviewers suffered an aneurysm getting through; above it, the titles truly worth your time and money. And remember: a score is only a vague indication of quality. Always read the full review for the definitive opinion!

WE
PLAY
ON:



ALIENWARE
GAME VICTORIOUS



ORIGIN



Armikrog

Hunt for pixels in a Claymation world of wonder

DEVELOPER PENCIL TEST STUDIOS
PUBLISHER VERSUS EVIL
PRICE \$24.99
AVAILABLE AT STEAM, HUMBLE
armikrog.com

Over the last five or so years there has been both a resurgence and evolution in adventure gaming. Although point and click adventure games have been a mainstay of Eastern European development for as long as there have been games, American and British development shied away from the restrictions of the genre for the most part until more interactive styles of adventure game, such as the Telltale episodic series, *Life is Strange*, *Gone Home* and the like became more of the norm. These new adventure games integrated action, moral dilemmas and conversation with the hunting for objects in the environment and the solving of puzzles required to progress. Adventure games became more about the overall story and consequences of actions rather than straight puzzle solving. *Armikrog* is not such a modern adventure game. It is relentlessly old-school. There are no conversations, no moral dilemmas and no moments of action. All there is are puzzles required to progress from one room to the next.



There isn't even much of a story outside of the one told in the opening theme song. Tommynaut is the last of three brothers. His older brothers ventured out into space to find the rare and much needed P-tonium required to save the world but were never heard from again. Tommynaut and his blind pet dog/bird thing Beak Beak decide to emulate the older Naut siblings and head into space in a final attempt to save the world but of course things go wrong almost immediately and they crash-land on a dangerous alien planet. After they are

attacked by a rectangular beasties with a tongue that looks like Earthworm Jim, Tommynaut and Beak Beak lock themselves in the only structure they can find - the giant, imposing fortress Armikrog. After that, the only story comes either in service of a puzzle, or through some strangely low res scrolling text found in one room that details the history of the previous occupants of Armikrog in the most long winded and uncomfortable to read way possible.

Without an ongoing story, all that is left to tie players to the action are the characters



themselves and the puzzles. Tommynaut and Beak Beak are little more than cyphers. Both are well voiced by their respective actors (Michael J. Nelson of MST3k fame and Rob Paulsen from Animaniacs) but don't have personality so much as they have the occasional gag. The recording also sounds like it was done in someone's basement - there is a hollow echo behind everything said. The designs themselves are full of charm and character, but like the claymation models used, that charm is only skin deep, and everything below that is mush. There isn't a great deal of interaction between the two supposed best friends outside a few short cutscenes, so for the majority of the time any sense of character or friendship is just a series of idling animations and the occasional funny sight gag.

With the characters being little more than vehicles for puzzle delivery with some well-acted lines, you'd better hope that the puzzles in Armikrog are good enough to keep people interested. Unfortunately they aren't. Even though the game has had numerous delays up to this point, it still feels unfinished. The first warning that things might not be entirely cooked is the starting menu. There's a configuration panel that pops up before the game proper launches but there are only a handful of resolutions, none of them suitable for high res on a 16:10 monitor. Once the game launches, the options menu, a place where you can usually tweak your settings in ways impossible before booting up contains no actual options aside from switching subtitles on and off, unless of course you, like the developers of Armikrog think that saving and loading a game is an option not a core mechanic that should be visible from the menu.

After the charming opening animation and theme song and the beautifully presented opening chase scene featuring the heroes and a giant



Nonsensical clues for later puzzles



Replicate a pattern by walking in a hamster wheel

there are only a handful of resolutions, none of them suitable for high res on a 16:10 monitor

WHY SHOULD I CARE?

- + You fondly remember The Neverhood
- + You're an Aardman fan
- + You like your puzzles obtuse
- + You love the default windows cursor
- + You believe inventories are extraneous

red beast with a worm tongue that functions as a winch, things come to a grinding halt soon after. The first room is barren with nothing around aside from broken lever on the ground and a window to look out of. There is no indication that either of these things can be interacted with as the windows default cursor doesn't give any indication that something can be clicked on. There is no highlighting of objects outside of a few instances in which Beak Beak is seeing by sonar or something. It's never really made clear. Once you've clicked on the lever you have to click on the aperture next to the door. There is no way of accessing the inventory, so many of the puzzles devolve to finding what you can

interact with rather than the manner in which items interact. Find the right pixel to click on and the right item will be used every time.

Not all the puzzles are this straightforward. Some require codes to be found and remembered others require manipulating levers or cranks in some way to change the colour of lights, the orientation of a path or the like. Then there are the puzzles that require nothing but random clicking to progress. One of the early puzzles requires the player to click on a creature that has not been interactive (at least in that way) up to that point to trigger an unskippable cutscene entirely voiced in a made up alien language, after which the creature

SEQUENCE

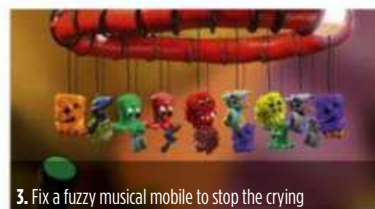
AND BABY MAKES 3



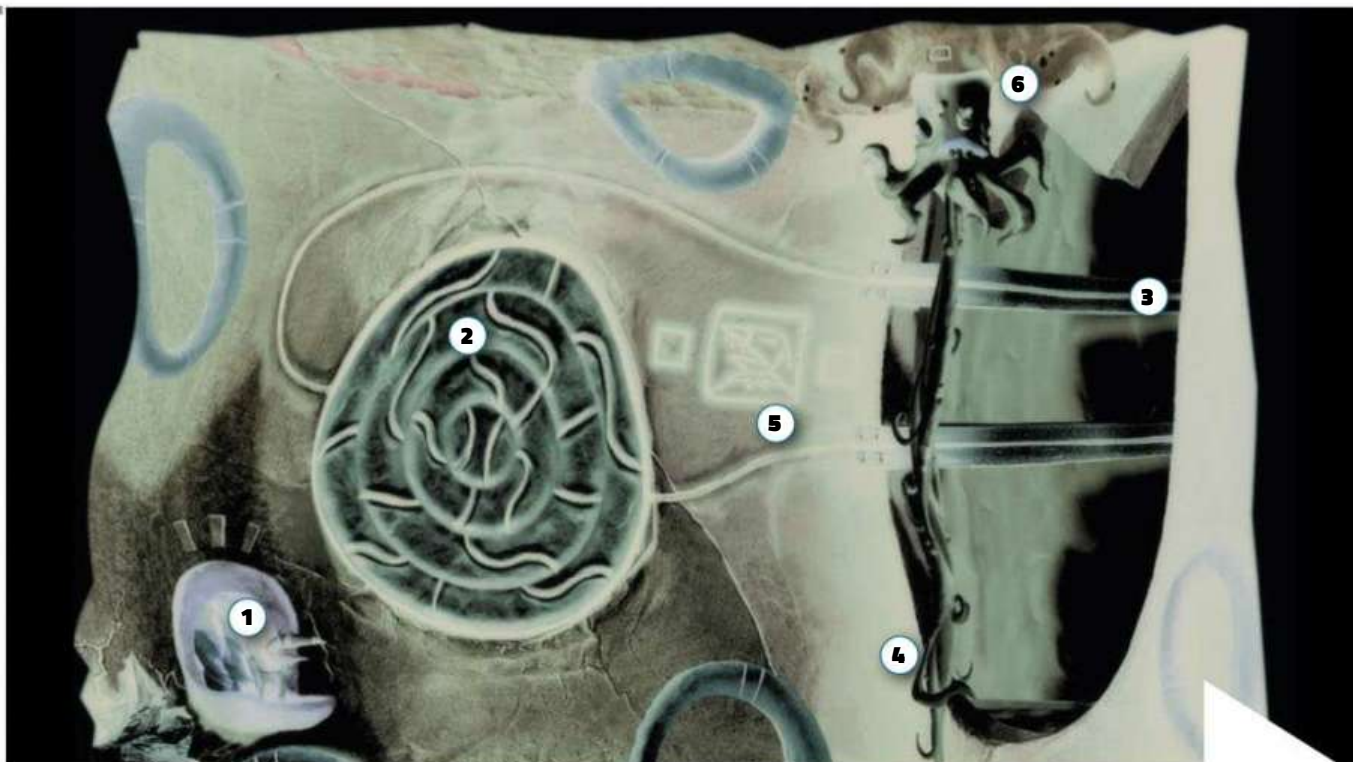
1. Find a baby and put it in your chest (seriously)



2. The baby cries and scares away the octopus elevator



3. Fix a fuzzy musical mobile to stop the crying



OBVIOUSLY

1. Beak Beak sees in negative sonar or something

2. This isn't a puzzle in the room but something you fix somewhere else

3. The cable car that rides these tracks feels like a bit of a time waster - lots of screens with no interaction

4. These tentacles are used as a lift to move between floors

5. A sigil needed to solve a code to open another door

6. Naturally you have to click on the head of the octopus thing to trigger a cutscene that eventually drops an item - the gibberish cutscene also contains a glyph needed to complete one of the final puzzles

drops an item needed to progress. It's a totally random event not hinted at through gameplay or story, just something that is a pixel hunt. Given the fact that the screen also contains a clue to a separate puzzle that can't be solved as yet, it doesn't give the player any indication that there is anything else going on.

The lack of consistency in the puzzling is extremely frustrating. With no inventory, anything that could be likened to an old fashioned "use X on Y" style puzzle is rendered meaningless, the sliding block/rotating object style puzzles are all too familiar and easy and the rest are obtuse and make no logical sense. This hodgepodge of puzzles,

general lack of interactivity, the lack of cohesion and the short running time - around 4 hours - add to the overall impression that Armikrog was released unfinished, simply rushed out the door long after the initial estimated release date to meet demand.

It's a real pity that Armikrog feels so undercooked, as it's honestly one of the best looking games we've ever seen. Sure it might not be photorealistic super high resolution state of the art with a cutting edge physics engine that renders the inside of the body in such a way that fluids flow realistically when the body is damaged (apologies, I've been to far too many hyperbolic press events

recently), but the claymation is amazing, the character designs are delightful and the more traditionally animated cutscenes are simple but brimming with charm. Maybe all the time the developers took to work on the wonderful animations ate up too much of the budget or took far too much time for them to release a fully coherent and finished title, or maybe the world has just moved on and this old fashioned style of puzzle game no longer has the appeal it once had. There have been many crowdfunded games released in the last few years that have been a success both commercially and critically. Armikrog isn't going to join those ranks, critically at least. **DANIEL WILKS**

OR TRY THIS:



DISCWORD NOIR
PERFECT
ENTERTAINMENT, 1999

▲ Funny old school puzzling
▼ No clay



CALLAHAN'S CROSSTIME SALOON
LEGEND
ENTERTAINMENT, 1997

▲ Every pixel a pun
▼ Every pixel a pun



GRIM FANDANGO REMASTERED
DOUBLE FINE
PRODUCTIONS, 2015

▲ A classic remastered
▼ Badly aged puzzles

VERDICT:

Armikrog is a stunning game with some of the nicest animation we've seen but the rest of the game feels muddled and unfinished.

6

Act Of Aggression

Can't we all just get along?

DEVELOPER EUGEN SYSTEMS
PUBLISHER FOCUS HOME INTERACTIVE
PRICE \$44.99
AVAILABLE AT STEAM
www.actofaggression-game.com

The Earth just can't catch a break. In the mid-2020s, 3 factions – The UN-sanctioned Chimera, the US Army, and a coalition of private militia known as the Cartel – battle each other over resources, and try to wipe each other out with superior weaponry.

Sounds familiar, right? Of course it does. Eugen Systems also made Act Of War: Direct Action over 10 years ago, and AoA is its spiritual successor. If you're a little bit older (like me), it'll bring back memories of Command and Conquer: Generals, which isn't a bad thing at all.

Like any RTS, it does take a bit of time to get into it. Resources are randomly spread throughout the rather large maps, so you will do a fair bit of exploration and planning before you fire a single bullet. Each faction also handles the nitty gritty of land management, base building and resource collection a little bit differently, but persistence and practice – like any RTS – will yield its rewards in the long run.

There's no shortage of available unit types, from multiple types of infantry, to vehicles, tanks, choppers, planes, and the usual gamewinners like nukes and ICBMs. There's nothing ground breaking here, folks, but if you're into these sorts of games (again, like me), this isn't necessarily a bad thing.

This promise of base establishment, resource management and all-in warfare is sorely missing from the single player campaign, however. The first mission was simply moving a group of troops from one waypoint to the next - with no possibility for exploration - shooting bad guys along the way. For a second I thought I was playing a top-down version of Call Of Duty. As you progress through



Reminiscent of C&C Generals

For a second I thought I was playing a top-down version of Call Of Duty

WHY SHOULD I CARE?

+ You miss playing games like Command and Conquer

+ You consider yourself a digital General Schwarzkopf

+ You've always wanted to command a crack team of SAS snipers

the missions, you start to be given more control, which is nice, but the scripted combat set pieces are needlessly frustrating. The first time you encounter one, you'll probably fail because you didn't have the right combination of units to get the job done. Once you get the mix right, however, it becomes ridiculously easy.

Skirmishes are where it's at, where you get access to the full suite of functionality and capability from the outset. There's a truckload of maps, several AI difficulty levels and different team composition options, and is a great way to get into – or get back into – the RTS style of gaming. The AI does sometimes does inexplicable things, like not gather resources. It doesn't

happen often, but that it does things like this at all is a shame.

This game really has the potential to shine in the multiplayer domain. However, there's no support for LAN play (which is odd), as the multiplayer is done through online lobbies. At the time of writing this review, there were only 100-odd users online, which is a bit disappointing. Perhaps today's gamers don't have as much patience for learning a new RTS mechanic like they used to.

It's not at the level of the Westwood games of yore or the current crop from Blizzard. Nevertheless, it's a solid game that sits on the shoulders of giants and brings the RTS genre back into the limelight. **PETER GUTIERREZ**

OR TRY THIS:



COMMAND AND CONQUER: GENERALS
EA PACIFIC, 2003

▲ The yardstick for all military RTS games
▼ You WILL lose track of time



ACT OF WAR: DIRECT ACTION
EUGEN SYSTEMS, 2005

▲ Same frantic action as AoA
▼ With worse graphics



STARCRRAFT
BLIZZARD ENTERTAINMENT, 1998

▲ As beloved a multiplayer game as Counter-Strike
▼ You're sick of dealing with Zerg rushes

VERDICT:

Lacklustre single player and questionable AI aside, this is a solid successor to the RTS greats of yesteryear.

7

Blood Bowl 2

And the quarterback is toast

DEVELOPER CYANIDE STUDIOS
PUBLISHER FOCUS HOME INTERACTIVE
PRICE \$44.99
AVAILABLE AT STEAM, RETAIL
www.bloodbowl-game.com

The biggest problem with Blood Bowl 2 is that it relies too much on virtual dice. Playing the game on the tabletop integrates dice into everything but there is a tacit understanding between gamers that everyone is playing against the fates, but in Blood Bowl 2 it just feels random and like the game is stacked against you. During the first few games of the campaign that serve as a tutorial, the randomness of the game isn't present, leaving players free to execute plays and supposedly get a feel of how the game plays. Get a little deeper in and you're thrown to the tender mercy of fate. Nothing in the game feels certain leaving the impression that fate has just as much to do with a win as does player skill. Even the least risky of moves requires a dice roll, but rather than playing against a mate who can at least empathise with your rotten luck, the just pushes on every time you fumble a ball, miss a block or otherwise cock up through no fault of your own.

It may seem like a strange criticism to complain about how a computer game emulated the tabletop game it's based on when it comes to dice rolls, but the difference comes in the fact that everything happens behind the scenes rather than out in the open. As with the previous Blood Bowl game by Cyanide Studios, Blood Bowl 2 doesn't do a good job of giving players an open interpretation of the rules. In the aforementioned tutorial levels of the campaign there is no indication that the randomness had been reduced so as to teach players basic moves, leaving them ill equipped to tackle actual games, and



■ Blood Bowl 2 doesn't do a good job of giving players an open interpretation of the rules ■

WHY SHOULD I CARE?

+ You like your sportsball deadly

+ You worship the gods of chaos

+ You think everything should be a gamble

sometimes you have to head to the online rule book to figure out why something you did failed so badly. The randomness also kills any sense of real strategy. Both you and the opponent may have a plan when the game starts, but given the fact that your turn ends as soon as you fail a roll, most patches soon become a wild jumble of half-finished moves and finger crossing.

On top of the randomness of the action, the unit rosters are wildly uneven. Of the eight available (many have been left out presumably for DLC later down the track), four can pick from five types of units making for well-rounded teams, one can pick from six, and the remaining two can

only choose from three, limiting them to very predictable tactics - an irony given one of the teams limited three units is Chaos. As far as the full suite of team goes, Cyanide is probably holding them back for an expansion, much like they did with Blood Bowl

Blood Bowl 2 isn't a particularly welcoming game for new players. The rules are often obtuse and the randomness can be a big boundary to enjoyment, but when things come together, either in the latter stages of the well-presented, if uneven campaign or in the multiplayer, Blood Bowl 2 is the best version of the beloved Games Workshop tabletop fantasy football game yet.

DANIEL WILKS

OR TRY THIS:



CHAOS LEAGUE
CYANIDE STUDIOS,
2004

▲ Unlicensed Blood Bowl
▼ Uneven



BLOOD BOWL
CYANIDE STUDIOS,
2009

▲ Licensed Blood Bowl
▼ Learning cliff



ROCKET LEAGUE
PSYONIX,
2015

▲ Perfect fantasy sport
▼ Nothing

VERDICT:

The overwhelming randomness mars what is otherwise a great digital version of a classic tabletop game.

6

Mad Max

Fuel injected suicide machine

DEVELOPER AVALANCHE STUDIOS
PUBLISHER WARNER BROS. GAMES
PRICE \$59.99 USD
AVAILABLE AT STEAM, RETAIL
www.madmaxgame.com

Max Rockatansky is an interesting anti-hero. He's a good driver, maybe even great, but aside from that he has no other real skills aside from the fact that he just wants it more. He escapes situations because of bloody-mindedness and wins fights because he's too stubborn to quit. He succeeds through determination rather than skill, a fact that doesn't really play out in Mad Max by Avalanche Studios. Left for dead in the desert after a run in with desert warlord Scabrous Scrotus, Max reluctantly teams up with hunchbacked mechanical prodigy Chumbucket to build a new vehicle in the hopes of being able to take revenge on Scrotus and reclaim the last of the V8 interceptors.

The action of Mad Max is broken into two parts - vehicular and on foot. The vehicular combat shines brightest and hearkens back to the greatness of some of Avalanche Studios' previous games. The wasteland is full of threats. Sometimes these come in the form of a single vehicle and sometimes as a fleet of guzzoline powered psychopaths. The vehicles are tough and made for taking a beating leading to smash 'em up derby combat, but the Magnum Opus, Chumbucket's masterpiece has one advantage that the desert raiders do not - the hunchback himself. Chumbucket braces himself in the back of the Magnum Opus and mans the harpoon, one of the most enjoyable weapons to come around in a long while and makes vehicular combat consistently enjoyable and surprising. The grapple can be used to pull armour of cars, rip off doors, pull drivers out through the windscreen or simply as a tether.

Coming up with new ways to ruin a marauder's day with the grapple is



The Scarecrow's henchmen don't have a big uniform budget

On foot, Max becomes a dusty Batman, effortlessly dodging attacks

WHY SHOULD I CARE?

- + You believe in hunchback rights
- + You're a fuel injected suicide machine
- + You saw a vehicle that could haul that tanker
- + You wanted to play a stubbly Batman

endlessly fun, as should be upgrading the Magnum Opus. The car has two avenues for upgrade - finding scrap metal and parts in the wasteland and through story progression. Unfortunately some of the scrap metal upgrades are locked behind milestone achievements, necessitating grinding if you want to progress further. There are points of interest and objectives dotted throughout the maps, but given the similarity between most non-story map objectives there is little impetus to do them.

Outside of the car the action doesn't fare nearly as well. On foot, Max becomes a dusty Batman, effortlessly dodging attacks at the press of a button and capable of beating nearly everyone he meets into a bloody pulp.

New moves are acquired throughout the game but they don't change things up particularly, adding little more than a new animation rather than a new tactic or mechanic. There are far too many fights for them to remain satisfying after the first few and even the ability to use weapons or blow up enemies with explosive spears wears thin pretty quickly. The boss battles are also extremely repetitive, falling as they do into only two real categories - large and strong or small and fast - both of which require all but identical tactics. Mad Max looks great and the open world wasteland has the potential for great fun - so long as Max sticks to what he does best and stays in the car. **TAVISH FORREST**

OR TRY THIS:



BATMAN: ARKHAM KNIGHT
ROCKSTEADY, TBA

- ▲ Good on foot
- ▼ Not so good in car



FALLOUT: NEW VEGAS
OBSIDIAN
ENTERTAINMENT, 2010

- ▲ Best apocalypse
- ▼ No vehicles



RAGE
ID SOFTWARE, 2011

- ▲ Pretty apocalypse
- ▼ Lacklustre everything else

VERDICT:

Like the character himself, Mad Max is great in a car, but not so great on foot.

7



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Assault Android Cactus

In space, no one can hear you fail

DEVELOPER WITCH BEAM
PUBLISHER WITCH BEAM
PRICE \$14.99
AVAILABLE AT STEAM
www.assaultandroidcactus.com

There's a story to Assault Android Cactus – something about rogue AI and police androids and related fluff – but none of that really matters. Not because it's bad, but because it's ultimately an unnecessary layer of gloss on what is quite possibly the most hectic, enjoyable and polished twin stick shooter/bullet hell games to come along in quite a while. Developed by Brisbane based indie developer Witch Beam, Assault Android Cactus may feature cutesy characters but don't let appearances fool you. Outside of character design, there is nothing soft about the game. It's fast, extremely challenging and hard as nails.

Broken into a number of nominally themed sections, Cactus sees players choosing from a number of assault androids, each with a different primary and secondary weapon, and fighting their way through waves and waves of enemies to unlock the next stage and eventually the section's boss battle. The basic mechanics are very simple but work perfectly within the confines of each dynamic level. The WASD keys control movement while the mouse can be used to aim in any direction. The left mouse button controls the primary attack whilst the right, or the space bar controls a dodge move that also switches to the secondary weapon. Primary weapons are effectively unlimited, with the power of the weapons progressively growing the more enemies killed. Secondary weapons are much more powerful but have limited ammunition and a lengthy cooldown.

Each of the nine androids available – some from the beginning, some unlocked through play – have markedly different weapons, both in range and



■ The action rarely lets up and no matter how many bullets you can spit out ■

WHY SHOULD I CARE?

+ You're a young, naïve android

+ You have a hatred for robots

+ You can never have too many bullets

functionality, with the basic rule of thumb being the wider the dispersal of the shot the less range and power it has. The special weapons also have markedly different effects, from explosive missiles to slow moving but powerful cannonballs to a devastating short range flamethrower. This variation of weapons really spurs both replayability for high score attempts as well as giving players options as to how they want to tackle levels. Though each character is powerful in its own right, some are more effective against bosses than they are against swarms of smaller enemies. Rather than using a straight life bases system, Cactus instead plays upon the mechanical nature of its heroes and gives them a charge as

well as a life bar. This charge depletes constantly but can be recharged with batteries that drop after a certain threshold of enemies are destroyed. If the android's life bar is depleted they can be resurrected using a large amount of the remaining charge. Powerups, such as extra firepower, speed boosts or time stops also drop from enemies.

The action rarely lets up and no matter how many bullets you can spit out, the enemies can always spit out more. After the first few stages the levels become a shifting bullet hell maze you just want to make your way deeper in to. It's a wonderful experience by yourself, but with a mate it becomes even more hectic and all the more enjoyable. **DANIEL WILKS**

OR TRY THIS:



GEOMETRY WARS 3: DIMENSIONS EVOLVED
LUCID GAMES, 2014

▲ Stunning twin stick action
▼ Long silly name



PIXELJUNK SHOOTER
DOUBLE ELEVEN, 2013

▲ Twin stick action puzzles
▼ Not enough bullets



BEAT HAZARD
COLD BEAM GAMES, 2010

▲ Music generated shooting
▼ Made of epilepsy

VERDICT:

Beautifully polished, intensely satisfying and deeply challenging, Assault Android Cactus is an almost perfect twin stick shooter

9

World Of Warships

You sunk my battleship

DEVELOPER WARGAMING
PUBLISHER WARGAMING
PRICE FREE TO PLAY
AVAILABLE AT WARGAMING.NET
Asia.wargaming.net

The transition from open beta test to full 'final release' of World of Warships was really quite calm – almost boring, in fact. But for a game that already had thousands of players, and was about to get many, many more, a boring launch is kind of what you want. No servers crashed, nothing caught on fire, and veteran players even got to keep their precious warships.

In fact, there wasn't even that much new added to the game as the version-number ticked over. If you've not been playing, at the moment you can really only choose between two tech trees – American and Japanese – with a few Russian ships available if you want to start spending cold hard cash to get something a little special.

On the surface it's basically the game we've been playing for a few months.

And that's no bad thing, as the basic formula is fiendishly strong. Even without the addictive draw of unlocking new ships and new guns, Warships' gameplay is mighty strong. In fact, it's a testament to the dev's research and balancing that even though they'll always err on the side of gameplay rather than accuracy (for instance, ammunition limits – present in World of Tanks – are absent in WoWS), battles still play it in a manner reminiscent of the real thing.

Heavy battleships tend to hang back, and try to trade massive long-range firepower; destroyers dart into gaps and try to get early torpedo kills, while cruisers attempt to interdict them, or hang back and provide anti-aircraft cover for aircraft carriers. The carriers themselves play more like a limited RTS, with a top down view of the entire map as they send out waves of fighters and



At 4k resolution you can see Liam Neeson on the bridge

Of course, no ship is an island, as it were, and teamwork is all

WHY SHOULD I CARE?

+ You want a slower paced combat sim than World of Tanks

+ The idea of a dreadnought broadside makes you smile

+ You want to game on a budget

+ You've always wanted to get bombed with some Yanks

bombers to pound enemy ships. Every class of vessel has something to do.

Of course, no ship is an island, as it were, and teamwork is all. This can sometimes be a little tough on the Asia-Pacific servers, as there are often multiple languages, even character-sets, in play. Thankfully, a new macro-communication system helps a lot, and careful analysis of friendly ship movements can make a huge difference. But even without that, everyone who's come through the beta now has a good idea of the basics of Wargaming's take on naval combat, and new players are learning fast.

The game's meta will no doubt constantly evolve, especially as new tech trees and ships are introduced,

and as post-launch balancing continues. At the moment, each match plays out like a stately dance, with lines of warships converging on capture points, and delicate aerial ballets playing out overhead. The modelling of these mighty steel vessels is impressively detailed, and playing the game on a 4K display reveals some amazing touches, like maps spread out on navigation tables. The sound of pounding guns, chattering AA, and crashing aircraft rounds out the experience, and if the physics around collisions and running aground are a bit ropery, it can be forgiven.

Especially if you're a fan of naval warfare, World of Warships is one of the best. **DAVID HOLLINGWORTH**

OR TRY THIS:



SILENT HUNTER IV: WOLVES OF THE PACIFIC
UBISOFT, 2007

▲ The subs that are missing from WoWS!
▼ Dodgy Ubisoft cloud saves



FIGHTING STEEL
SSI, 1999

▲ Great campaign mode
▼ Just a little long in the tooth



NAVAL WAR: ARCTIC CIRCLE
PARADOX INTERACTIVE, 2012

▲ Higher level modern naval strategy
▼ Disappointing graphics

VERDICT:

Well-balanced, great looking, and with some remarkably tense ship-to-ship combat.

9

SOMA

The seaweed is always greener in someone else's lake

DEVELOPER FRICTIONAL GAMES
PUBLISHER FRICTIONAL GAMES
PRICE \$29.99
AVAILABLE AT STEAM
somagame.com

Horror in games is usually predicated on jump scares - spring loaded cats launching out at tense moments, monsters popping up when you least expect them, screams shattering the silence and the like. Although SOMA does have its share of effective jump scares, Frictional Games has achieved something rather amazing with the new game - an existential sense of dread fostered both by the plot of the game and the environment in which the events take place. It's a different kind of horror game that most people will be used to, one that relies of subtlety rather than cheap pops, but don't let that fact be a barrier to you playing one of the most thoughtfully constructed horror games in years.

Simon Jarrett wakes up in the PATHOS-2 underwater research facility with no memory of how he got there. He seems to be the sole human on PATHOS-2, but that doesn't mean he is alone. Strange biomechanical growths riddle the walls of the facility, and mechanical monstrosities roam the halls, screaming feedback and occasionally taking on a frighteningly human aspect. Like Fictional Games' last game, *Amnesia: The Dark Descent*, *Soma* is a game about exploration, discovery and running away. Finding out why you're in the facility and what exactly is going on forms the crux of the narrative drive, and trying to get from point A to point B whilst not getting got by creepy robots, forms the action. It's more haunted house than traditional survival horror with pacing more often than not predicated on the player's nerve than any immediate danger.

The intuitive controls emulate in many ways motion control, and this



Run away, hide, close your eyes, wait for death

He seems to be the sole human on PATHOS-2, but that doesn't mean he is alone

WHY SHOULD I CARE?

+ You think *BioShock* was a bubblegum fantasy

+ You are a pacifist

+ You find screaming feedback soothing

definitely adds to the omnipresent sense of tension. Rather than simply clicking on a thing to use it, players must instead perform action related to said object - pulling a door open and closed, slowly sliding the mouse to close a desk drawer so as not to make enough sound to alert a patrolling robot. Nearly everything in the environment can be manipulated or interacted with in some way, and this gives the sense that PATHOS-2 is a real physical place. There is no hand holding in *Soma*. There are no visual indicators of where to go, no arrows pointing to objectives and no HUD to inform you of relevant objects, the proximity of enemies or the like. If you find a code somewhere in the facility you had better remember it or write it

down, because the game won't do it for you, no matter how much you might need it later on. This lack of any helping hand adds to the feeling that PATHOS-2 is a real place you're trapped in and adds immeasurably to the tension of the situation - frantically searching through notes to find the code for a door while the inhuman distorted screaming of one of the monsters grows louder is a definite brown trouser moment.

Not everything in *Soma* is a triumph - some sections of the game become a slog of slow travel, and some of the voice acting clashes with the otherwise stellar sound design. That said, *Soma* is still one hell of a polished, nerve wracking game. Slow burn beats a jump scare any day. **CARL SANGSTER PC**

OR TRY THIS:



AMNESIA: THE DARK DESCENT
FRICTIONAL GAMES, 2010
▲ Run away!
▼ Run away!



LAYERS OF FEAR
BLOOBER TEAM SA, 2015
▲ Crazy painters
▼ Early access



DROPSY TENDERSHOOT
2015
▲ Hugs and death
▼ Goddamn clowns

VERDICT:

More effective when the monsters are existential threat, *SOMA* is a chilling, thought provoking experience.

8

Skyshine's Bedlam

You want to get out of here, you talk to me

DEVELOPER SKYSHINE GAMES
PUBLISHER VERSUS EVIL
PRICE \$19.99
AVAILABLE AT STEAM
www.gobedlam.com

Take equal parts Oregon Trail, FTL and hatred and you have Skyshine's Bedlam. It's a game that seems to actively dislike you, trying at every turn to end your game in the most brutal way possible. The brutality of the game is fitting when you consider the brutality of the world in which it is set. A post-apocalyptic Rogue-like game, Skyshine's Bedlam sees players trying to make their way from the walled city of Byzantine to the fabled safe haven of Aztec City in a massive armoured transport called the Dozer. Standing between the Dozer and Aztec City is the vast, hostile expanse of Badlam, an irradiated desert populated by hostile cyborgs, mutants, A.I. and marauders. The desert itself is just as deadly as any foe that walks on two legs – at any moment ionic storms can vaporize anything unlucky enough to be outside, quicksand can bog the Dozer, and starvation is an omnipresent threat. To make matters even worse, the self-proclaimed warlord of the wasteland, King Viscera isn't too happy you're trying to travel through his lands so has sent elite bounty hunters after your head.

The Dozer carries 1000 passengers, the crew, and a limited supply of crude (fuel), meat (food) and power cells. Each move across the map consumes valuable crude and meat. If you run out of crude, it's game over. If you run out of meat the passengers begin to starve to death. Run out of passengers and it's game over. Power Cells can be used to upgrade the facilities of the dozer, making it more fuel, food and power efficient or can be used to power the weapons and Dozer abilities



Take equal parts Oregon Trail, FTL and hatred and you have Skyshine's Bedlam

WHY SHOULD I CARE?

- + You dislike marauders
- + You hate mutants
- + You really hate cyborgs
- + You really, really hate rogue A.I.
- + You kind of hate yourself

that can potentially turn the tide of a battle. All of the resources (including passengers) can be used for barter as well to purchase items, abilities or other, more desperately needed resources. It's all a delicate balancing act that can be toppled in a second by an act of god. Random environmental effects can gobble up resources – ionic winds can dissolve passengers, quicksand can burn a heap of crude, passenger can riot over rationing and go through the food stores like locusts.

And finally there are the enemies. Combat is a deceptively simple affair. Each side has two moves per round that can be used in any way the player wants – a move and attack, two attacks, two movements, etc.

Players can field up to six fighters in an encounter, with rewards for players who battle with fewer units. Initially the four different types of units are fairly weak but can be levelled up veterans by killing three enemies. Thanks to the permadeath of units, losing these veterans hurts. Bad. Defeating King Viscera's powerful bounty hunters allows you to recruit them. These powerful units are extremely valuable and losing one in combat, especially if they have become a veteran can be devastating. Get through all of that and you may reach Aztec City. Fail and you'll want to try again. And again. And again. Succeed and you'll want to try for the hard ending. **DANIEL WILKS**

OR TRY THIS:



FTL
SUBSET GAMES, 2012
▲ Extremely challenging
▼ Goddamn pursuers



THE BANNER SAGA
STOIC STUDIO, 2014
▲ Gorgeous strategy
▼ The Dredge



ORGAN TRAIL
THE MEN WHO WEAR HATS, 2011
▲ Oregon Trail with zombies
▼ Goddamn zombies

VERDICT:

Cruel, uncompromising and sometimes even unfair, Skyshine's Bedlam will test your patience and resolve in the best possible way

8

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Games Education In Australia



Looking to get into game development? There are more places to go, and more options available to you, than ever before. We chatted with some of the schools out there to get a better sense of the current state of games education in Australia, and talked with some alumni who have gone on to make cool things.

by James O'Connor



We asked ADAM RUCH, department coordinator for Games and Animation at SAE Sydney, to talk about what the school offers students.

Do students typically come to SAE with a specific idea of what they want to do in the industry? Do you think their attitudes towards and ideas about game development change over time?

Some do, but not everyone. There are a few roles in games that people seem to recognise before enrolling, like 'game designer' or 'level designer', but I also find that new students don't necessarily know what it means to actually occupy those roles. So they definitely learn that there are a lot of different ways to contribute to a game, and find that there are different aspects that they gravitate towards.

How important is collaboration between students on projects at SAE? Are you aware of any independent teams that have formed between SAE graduates?

This is extremely important. We focus on project work, making games and prototypes, and students are almost always working in a 'simulated studio'



environment. We believe that not only are the technical skills required to use any particular piece of software important, but that being able to collaborate is vital. It's very unlikely that anyone will have a career without collaboration, so we want to give our students the opportunity to practice that while they study. There are a few teams who have gone on to work together outside of college including the guys from Pygmy Tyrant – Trent Naylor, Willis Smith, Dhani Wong and David Coonan. These guys were college mates who founded their successful indie studio after collaborating on their major student project at the SAE Sydney campus.

You offer campuses all around Australia – will students get the same basic experience at any of them? Are guest lecturers ever live-streamed across campuses or anything?

Each of our campuses works to the same curriculum, but this is really a framework, not a laundry list of tasks to complete. Even within a campus, the studio projects are usually themed around a set of ideas that are one way to approach the learning outcomes for the unit. These change over time: different lecturers bring different ideas to a unit, different student groups interpret the project briefs in unique ways, and that's part of the design of these units. We want our students to have a more personal experience, something in their portfolio that speaks to their identity as a creator, rather than every student graduating with the same assignments in their showreel.

That being said, all of our lecturers come to this institute with years of experience and industry accolades – and they know what it takes to succeed. Our academic rigor challenges students to be original and push the medium forward.

What sort of challenges do you need to prepare students for aside from teaching them how to design games? Does SAE focus on the realities of the industry as well?

One of those challenges is the group work – we know that working in teams is unpredictable, and handling that is not easy for all students. That is a reality of the industry – of the whole world, really – so it's an important one to address. Our internship program, which is built into the course, prepares students to present themselves in a professional way. We also help students build an online presence and a portfolio, both by building the content, and by actually working on the showreels and portfolio sites themselves.

Personally, I am very up-front about the realities of finding work in large companies, about the state of the Australian industry, about the opportunities (and challenges) of running an indie studio, among other things. But I am fundamentally an optimistic person, so I use that kind of honesty as the foundation for effecting real change over time.

The Australian games development scene was rocked somewhat by the 'bust' of a decade ago, when a significant amount of foreign investment dried up. We've been working hard to address the impacts of this on our local creative media sector and specialists, mainly by ensuring our students graduate with a more rounded skillset. We want to ensure they qualify with the aptitude and attitude to work both in large development studios across different specialist areas, as well as in smaller indie teams on projects that retain intellectual property for Australia.

If we can gradually build a more stable foundation of developers working on original game ideas, the Australian gaming industry should become



ALL OF OUR LECTURERS COME TO THIS INSTITUTE WITH YEARS OF EXPERIENCE AND INDUSTRY ACCOLADES

more stable and we should see long-term sustainable growth.

What does SAE offer that makes their game development course unique from other schools?

For starters, we have a wide range of disciplines here, so students can work together in teams including animators, audio producers, web developers etc. We also build up a theoretical or first-principles knowledge about games throughout the unit, to give students an understanding of what games are that transcends whatever technical skills they will pick up. We want to answer the question "what is a game?" or "how does this game work?" regardless of whether it's built in Unity or UnrealEngine or GameMaker.

We are one of the oldest and most experienced providers of tertiary games development education in Australia, having

the experience of Qantm College which was founded in 1996. This enables SAE to provide students with both a solid academic foundation and professional industry knowledge so they're ready to hit the ground running.

Can you point towards any success stories from recent graduates?

We're really proud of the achievements of our graduates. Our success stories include Melbourne games graduate Jair Wallace who is doing great work with Australian games studio Twitch, designing and executing user interface systems as well as core multiplayer battle systems for games such as *Orcs vs Knights: Heroes of War*.

Brisbane graduate Adam Single has joined the ranks of successful gaming programmers and is co-organiser of the Game Technology Brisbane meet-up. Adam returned to study at 27, having left his former life as a café manager to pursue a passion for technology.

Halfbrick is another success story. The company is at the forefront of the Australian games development industry and was founded by SAE graduate Shainiel Deo in 2001.

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ALEX CARLYLE, Head of Design at AIE Sydney, is an industry veteran. He was the project lead on both The Getaway and LA Noire.

What prompted you to move from full-time game development to education?

I didn't study game development to get into the industry and throughout my career I have done a lot of recruiting and training of junior designers, so I have always had an interest in the burgeoning education sector. During the last few years I have got to know some of the people who work at AIE and I've also had the pleasure of working with some of the graduates who had impressed me. More recently the landscape of game development has changed across Australia. My career and experience has always been centered on large-scale AAA development, which is no

longer present here, leaving me considering where I could best utilise my skills should I choose to remain in Australia. AIE felt like a good fit and I have been fortunate enough to be able to bring that experience and shape the curriculum across the organisation.

Aside from design logistics, what do you think are the most important things for games development students to learn?

A professional working attitude and the skills to see a project through from concept to completion. Even for industry professionals those are still the toughest challenges ahead of them. Knowing when to push hard, knowing when to let go of an idea that isn't working, working effectively in a team, planning and scoping

appropriately and staying the distance to see the fruits of your labours come to life are all the elements of what makes a person an invaluable team member when making a game.

What advice would you give to a potential student who wanted to enrol in AIE but ultimately wasn't sure what they wanted to do within the industry?

They should do their research and make sure they understand what the different disciplines do in the game industry, but ultimately I would encourage any student to identify and follow their passions. If you know what you love to do and you get the opportunity to do

that you are on the right path. For those students that don't know what their passions are yet, try to see what you enjoy and what you don't. The great thing about the world of game development is that you can absolutely give it a go without having to study it. Education institutions like AIE will help you take your skills to the next level and can provide structure and industry expertise, but you can try your hand at the basics in the comfort of your own home to see what you like to do.

From your perspective, what's the most rewarding part of getting to teach game design?

Amidst the opposing opinions of what game is better than the next, the differing walks of life of students, and the varying levels of skills and interests within the discipline, is a united passion for creativity and the dream to go out into the world and make truly ground-breaking experiences for players. It is refreshing to be surrounded on a daily basis by that raw desire to put those ideas into practice. Having the opportunity to help shape them and provide a pathway for success in the industry is both humbling and rewarding.





DAN TOOSE, coordinator of the AIE Incubator program (and former editor of *Hyper*), spoke with us about what the AIE Incubator can offer aspiring game makers.

Can you outline the Incubator Program for us? What is it exactly, and how can students become a part of it?

The Incubator Program is something AIE came up with as a means to help our Advanced Diploma graduates who wanted to go indie. This was something that seemed really necessary once the games industry shifted from being almost entirely about medium to large studios working with major publishers into this new age of independent development.

We take anyone who has proper development chops, whether they're an AIE graduate or not, but I screen them pretty carefully to ensure they know what they're getting themselves

into. Typically, that means either having a team that has worked together, or coming in here as an individual with a well-considered plan for a solo venture.

Does the program target the business of independent development as well as the logistics of building a game?

Absolutely. Arguably the most common thing that folks trying their hand at indie development fail at is the business side of things, because they're typically motivated by their passion for games, and don't think about how to run a business around that until it's too late. We still need to help with production advice too – There's a massive difference between making a small student project game and trying to create a game suitable for commercial release.

Who is the Incubator for? What sort of student is likely to benefit from it?

Primarily, the Incubator is for people who want to actually start and grow their own business. It can also benefit folks who simply want to be a part of a commercial game project, which is super valuable on your CV when you go to apply to a major games studio. However, most of the key benefits we offer, like access to scholarships and grant funds, best serve those who are trying to get something sustainable going and need a boost at the start.

Can you outline any success stories from the Incubator program?

At this point, our biggest success stories are in a series of projects that are 'about to hatch'

after quite a bit of incubation. We've had nine projects successfully pitch for a share of \$300,000 in grant money we've made available to our Post-Incubator teams over the past two years, and that's helped some of them to keep focused on their projects long enough to do things like get on to Steam Greenlight, and be approved for development on the major consoles. Some of the Greenlit game include Bearzerkers, Evergreen, Dragon's Wake, with Collateral and Orbitor both in Early Access now. One of our teams has a deal in place with a publisher that we're not able to discuss, but that's obviously a major win.

What sort of feedback do you get from students after completing the program?

It's generally all been very positive, which is a big deal to me. There are many times when I've seen someone wrap up at the Incubator and not really get as far as they thought they would have when they first arrived, but have still come and talked to me about how they've had an invaluable experience that they needed to have. I think the fact we've got most of our graduates wanting to stay on here as Post Incubator teams speaks volumes about how they see the place.



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We talked to Nick Fredin, director and co-founder of CG Spectrum, about their online school, established in 2011.

What is the main focus of CG Spectrum? What might draw potential students to this school over others?

At CG Spectrum our main focus is providing an optimised education that will truly lead to relevant employment after graduation. We aim to teach students the latest skills by providing a cutting edge curriculum created and taught by industry leading mentors. We have created our programs by finding out what skills studios are looking for in artists and what makes someone employable. We then hire the best artists from around the world to implement the studios' advice and to create our own unique curriculum. Our courses are designed to take someone who has the passion and

dedication to an employable level faster than any other school. We are able to do this through small class sizes of ten students or less, in-depth correlated lessons and full time, highly experienced mentors that are there for our students every step of the way.

How do you cater to students who arrive not entirely sure what sort of artist they want to be?

We understand not everyone knows exactly what they want to do when they start school. It can take some time to find out what really makes you excited and this is something we nurture by introducing all aspects of the 3D pipeline over the course of a year. We are very excited to be announcing our Advanced Diplomas that will give students the chance to

really focus on a specific craft in their second year and give grads the proper skill set to succeed in the industry.

What's the split between focusing on digital art for films and digital art for games? Are there separate courses, or does a lot of the knowledge taught apply to both?

While taking the diploma of Screen and Media students learn the 3D design pipeline in a hybrid form. We teach the foundational skills that every artist needs, whether in film or games, to be successful by building a game and the assets within it. Doing this allows students to gain a fundamental knowledge that they can then build upon in the second year of our Advanced Diplomas.



You offer an online diploma, how does this differ from the experiences students might have on-campus? Can you still encourage collaboration in this set-up?

The technical hurdles that you encounter providing online education encourage you to come up with creative and innovative solutions that end up enhancing the students' experience. This isn't online education where you sit there and watch a video and that's it. We meet with our students live, look at their homework and give meaningful critiques. We record all of our classes so students can review them at any time, and we have designed our curriculum in a thoughtful way that encourages collaboration. A common situation that students find themselves in is biting off more than they can chew and becoming frustrated when they can't complete projects. In a collaborative situation this becomes a nightmare and students often abandon projects. We make sure we give students enough creative freedom but also offer constant guidance with lessons that build on each other and merge naturally into collaborative projects. It's the only way you can offer optimised education of this calibre online.

Where Does It Get You?

To get a better understanding of what you can actually do with a games-focused degree, we reached out to several former students who have, since finishing their degrees in Australia, been involved in the making of games that have received commercial release.



MATT TROBBIANI

Studied: Computer Science, Adelaide University (2011)
Worked on: Hacknet

▲ In August, Matt Trobbiani completed work on the long-gestating Hacknet. It's a game about hacking into computer systems to lift data, sort of like a modern Uplink. It's clever and funny and fantastic, and is clearly the result of a lot of hard work. "Making games is really hard", Trobbiani admits. "If you're making something new or innovative, there might not be good answers out there for 'how do I do this'."

"A computer science degree helps a lot", says Trobbiani. "Coding for games is still just coding, on most levels, and having those strong technical skills behind me let me start making things of substance earlier, and guided my development as a 'games coder' in a really good way."

"Having a really strong understanding on the language you're using, and how to think about problems from a coding and systems point of view gives you a lot more options."

As with a games-focused degree, being around people helped. "I learned a lot more at uni when I was writing my own projects outside of the course work, but being around those people, and in that environment, really kept my motivation up to keep improving and gave me good people to talk to about projects."

While he was there, Adelaide University was also host to the Game Development Club, which Trobbiani says was a great way to network. "Talking to people there about the indie scene, development, code – everything, was amazing. Two people in the club – Chris Johnson (Expand) and Izzy Gramp (Intergalactic Space Princess) are basically totally responsible for me starting to take game development seriously. I'd always



been interested in making games, and had played around and made a few experiments before then, but hadn't really been considering it as a career, or something that investing a lot of time into would ever see anything good come of it."



ANNA TITO

Studied: Game Design, RMIT (2011)

Worked on: VEGA Conflict, Ice Age Village

▲ Tito's career has taken her to a few developers around Australia before ultimately leading her to EA Capital Games Austin, where she now works as an engineer. "I definitely think (my degree) was instrumental in the beginning", she says. "I chose a slightly different path at the time focusing on a double major in design and

programming, with a sub focus on mobile application programming. This unusual background and knowledge base made me much more useful in an industry that was newly transitioning to mobile and web." While Tito says that her work experience is now more important than her degree on a resume, she also believes that she wouldn't be able to work overseas without it. "While at this point the degree is looked at less by the companies I go to work with, it is still vital to have for the immigration, visa and other administrative processes. It is definitely safe to say that without it I would not be working at EA right now."

RESPONSE RATE

To find people for this feature, I put callouts on three Facebook game dev groups and asked a few industry figures for help me find graduates who had made use of their degrees. Within a few hours, 32 people sent me messages via Facebook, offering to help, and several more e-mailed me. Others contacted me on Twitter, equalling around 50 all-up. I didn't have to look hard to find people, which is a great sign for the industry.



STORMRISE



FORGET ME, NOT



TRENT ATWOOD

Studied: Advanced Diploma in Game Art, AIE Sydney (2000)

Worked on: Cinematics for AAA games

▲ Trent Atwood is the Lead Unreal Technical Artist at Waterproof Studios. "I believe my education contributes to me landing jobs on AAA world class titles", he says. "However, I believe that most employers also look for experience and learning beyond the classroom especially when hiring for high profile projects. My advice for students is to add to their formal training with other software packages." He feels the things he learned fifteen years ago remain useful, even when the work he is doing is different from what he

learned. "My education was very arts focused while my current line of work is more technical focused. Regardless of how technical my job gets, there is usually an element of creativity where my arts background comes into play".



SALLY KELLAWAY

Studied: Bachelor of Music Technology (Honours, 2010), Griffin University, Masters in Design Science, Sydney University (2014)

Worked on: Stormrise, London 2012, sound design for Firelight Technologies.

▲ Sally Kellaway has had a tremendously varied career, working on several AAA titles and smaller indies over the last

few years. Her accomplishments are too many to list here. "I used my education as a lever to begin working in games before I graduated the first time. I started out working on tiny game projects providing sound effects for other students. After I graduated, I took a job in QA to learn more about development holistically". She believes that her research work is one of the reasons for her success. "I think most importantly of all, each passionate push I have received from each of my supervisors and course instructors to keep going down this rabbit hole is something I have valued from my education at many points in many ways."

SHANE RYPERS

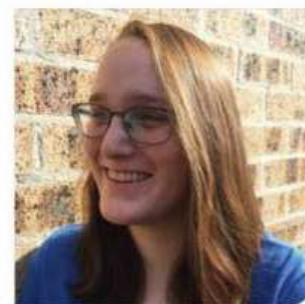
Studied: Bachelor of Interactive Entertainment, QANTM Brisbane (2014)

Worked on: BioGloom, Snack Attack.

▲ Since finishing his degree, Shane Rypers has worked mostly on Android and iOS games for clients. "When I set my mind to work in this industry, I wasn't sure that a university course was the way to go", he says. "The seemingly normal progression was to go work in the QA trenches until you were good enough to call some shots." The course he ended up doing, however, was extremely enlightening. "The



course really helped me to put things into perspective and bring me back down to earth with my preconceptions about the industry. Everyone knows about the 'ideas guy' stereotype of amateur developer, who acts like some kind of gameplay brains trust. I was very much this person, and had no real tangible skills in game development". Rypers now feels far more equipped to work in the industry. "It taught me the tools, the methods, and the importance of iteration and continual self-improvement. It also taught me a bunch of inter-disciplinary stuff like modelling and programming that helped me work better."



ELIZABETH THRELFO

Studied: QANTM Sydney, Bachelor of Interactive Entertainment (2010)

Worked on: Forget Me, Not

▲ Elizabeth Threlfo has worked on several of her own projects since graduating. "Probably the most significant game project I've worked on has been 'Forget Me. Not' which explores dementia using the metaphor of data corruption", she says. The game was nominated for a Freeplay award this year. She jumped right into her course out

HOW DOES IT LOOK ON A RESUME?

We asked Paul Baker, 2002 AIE graduate and current head of Three Phase Interactive, whether indie companies look at degrees on a resume. "CVs are used to work out if someone could possibly fit the role, and education is an important part of that", he says. "Degrees are preferred over shorter courses. We don't really have a preference of one institution over another."

IF YOU SPEND YEARS AT UNI CREATING THINGS THAT CAN MAKE UP YOUR PORTFOLIO, THOSE ARE SUPER VALUABLE BY THE TIME YOU WANT TO GET A JOB

of high school, and acknowledges that she has learned a lot since finishing. "The actual content of my studies haven't been much more than an intro to the world. After my studies I realised I had quite a gap in knowledge, even as I worked in the industry as a designer. Since starting out as an indie I've spent much of my time improving my skill set across programming and design especially". Studying also helped her to make friends within the industry.



ASPEN FORSTER

Studied: RMIT, Bachelor of Design (2015)

Worked on: The Sims Freeplay

▲ Aspen Forster is currently working at Firemonkeys, EA's big Melbourne mobile studio, which is a job she got through her studies. "My course was basically like a 3-year long

interview", she says. "All of the hard work I put into my assignments not for grades, but for the satisfaction of pushing myself creatively ended up showing my tutors that I was fairly capable, which in turn lead to me getting an internship at ACMI before applying for a position at Firemonkeys." She was particularly fortunate, as one of the interviewers had acted as a mentor at RMIT and had seen her course work prior to the interview. She believes that it isn't so much her degree as the hard work

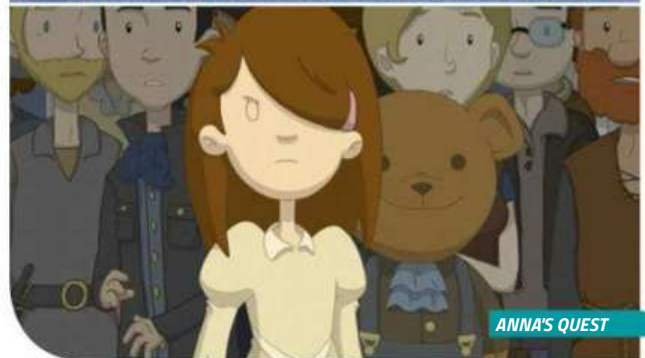


USING YOUR SKILLS OUTSIDE OF GAMES

Aaron Milan, a second year student in Game Design at AIE Sydney, is also the director of wearable tech start-up company Forcite Helmet Systems. They've developed a smart ski helmet that records video, pairs with your phone so you can talk to friends, and tracks you via GPS. "I didn't have experience with design, and the whole time throughout the AIE course everything I learned I was able to apply immediately", he says. "From creating presentations, to project management, design feedback, understanding player engagement... I was able to transfer this knowledge into product design with the team". Milan is a great example of how game design studies can be applied outside of games.



THE SIMS FREEPLAY



ANNA'S QUEST

her degree motivated out of her that has landed her this job. "If you spend those years at uni creating things that can make up your portfolio (instead of just passing), those things are super valuable by the time you want to get a job. No one cares about the grades you got or the list of subjects you completed or the uni you went to, all they care about is what you can SHOW them you can do."



DANE KRAMS

Studied: Master of Creative Industries, Queensland University of Technology (2012)

Worked on: Anna's Quest

▲ Dane Krams released Anna's Quest this year, a

point-and-click adventure that was published by Daedalic Entertainment. He designed, directed and wrote the game, and was the lead artist and animator. He believes his degree helped him to develop the game. "There were basic practical electives that helped in obvious ways, like animation, web design, project development. But there were also compulsory theory subjects on things like entrepreneurship (which a lot of students rolled their eyes at) that I was personally surprised by. These went a long way to making me think in a business-minded way, which has to be considered to at least some degree when making games." His degree taught him not only how to build his game, but also how to market it to Daedalic.

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WELCOME BACK TO UPGRADE AUSTRALIA

The second Upgrade Australia event proved to be bigger and more exciting than the first, signalling great things for the future of the event.

The combined forces of PC & Tech Authority, PC PowerPlay, Hyper and Atomic took over the UNSW Roundhouse and brought together technology vendors and tech savvy fans for a night of information overload, fun, prizes, food and drink. After a brief bit of mingling and checking out some of the tech on display, MC Steve Kiernan, Editor of CRN, got the show on the road.

Graham Tucker, ANZ Technical Manager for Intel kicked off the talks, detailing the design process behind the new Skylake CPUs as well as the philosophy behind the Tick-Tock development and distribution cycles of CPUs. Mr. Tucker also spoke about the blazingly fast Intel 750 1.2TB PCI SSD, currently the fastest consumer SSD in the world. Intel are giving away three of these drives in a competition. If you're interested in entering the competition, head over to <http://www.pcauthority.com.au/upgradeaustralia/> for more details. Graham concluded his talk with giveaways of three Skylake CPUs – two i5 and one i7 – and a lively Q&A.

Lee Edgerton from Microsoft followed Graham to laud the merits of upgrading

a PC to Windows 10. Early in his talk, Lee surprised himself when asking the crowd how many people owned Windows phones. To everyone's surprise the number of hands that shot up was far larger, as Lee pointed out, than what market share would dictate. The real highlights of Windows 10 shown during Upgrade Australia were the Xbox App and DX 12. The Xbox App, as demonstrated on the Microsoft stand, can stream almost lag free gaming content from an Xbox One to any Windows 10 device – PC, tablet or phone. Little has been shown of DX 12 games as yet, but Windows 10 is the only way to get it at the moment.

Following Microsoft was Josh Collins from Asus talking about the range of Z170 motherboards as well as brief look at the Asus range of graphics cards. Strutting around the stage like a member of the Beastie Boys, Josh detailed the significant upgrade of sound chip on the high end Z170 boards, essentially placing a free \$200 sound card directly on the board. The boards also boast a number of super-fast memory connections, USB 3.1, Thunderbolt 3 and pretty much everything else you could want

for future-proofing. Josh finished his talk with a prize giveaway, giving one lucky punter a Strix Tactics Pro keyboard, A Strix mouse, Strix 7.1 headphones and a mouse pad. Not at all a bad haul for coming to a free event.

The final speaker in the line-up was Dino Strkljevic from Gigabyte. Dino kept his presentation brief, detailing the new sound chip on the high end Z170 motherboards as well as the fact that Gigabyte are offering Thunderbolt 3 over USB type C connectivity on their boards, enabling one USB type C slot to be used for power, Display Port and data transfer at ridiculous speeds. Rather than taking up too much time on stage, Dino has something special in store for 10 members of the audience – a chance to try liquid nitrogen extreme overclocking. The two teams of five competed for the top of the line Gigabyte Z170 motherboard. Nitrogen filled the air and there were many jealous looks from the audience members not chosen.

After the talks there was more food, more drinks and more talking to representatives from Intel, Microsoft, Mwave, Asus and Gigabyte. Success.



Tech²⁴⁵

YOUR GUIDE TO PC GAMING HARDWARE



Win Win

It's never that easy

Last month I did something incredibly risky and undoubtedly foolish. It was something I'd never have attempted in the past. I installed Windows 10 onto my main work PC without backing anything up, as an upgrade install.

To my delight, it went perfectly.

Now, I wouldn't normally do this kind of thing, but so many of the techies that I trust had done so without any issue, so I took the same punt. I guess it goes to show how much of Windows 10 is built on 8.1 that every single file and program worked perfectly after the upgrade.

However, getting a clean Windows 10 install on my new gaming PC was a different matter entirely. I created a Win10 USB installation disk on my old gaming PC, but after installing it on my new PC it refused to authenticate. I'd heard this was a common problem when swapping mobos, and that a quick call to Microsoft's support would fix the issue. Turns out that's not true. They told me I had to install Windows 8.1 on the new machine, then Windows 10, then create a fresh install USB disk on this machine, and do a clean install once again. Except my copy of 8.1 was an upgrade to Windows 7, meaning I'd have to install the operating system *four times* before I'd have a clean install of Windows 10. Instead I gave up and got a working Windows 10 key off their local PR.

So, in hindsight, the upgrade install might not be quite as pristine and crisp as a fresh install, but my god it was a damn sight easier.

Bennett Ring
Tech Editor



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GIGABYTE Z77X-UD3H
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CORSAIR NEUTRON
www.corsair.com



RAM
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www.patriotmemory.com



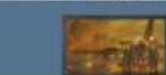
GPU
RADEON HD 7970
www.amd.com



PSU
CORSAIR AX860I
www.corsair.com



DISPLAY
DELL U2711
www.dell.com.au



WINDOWS 10 GAMING GUIDE

Get the most out of gaming with **Bennett Ring**

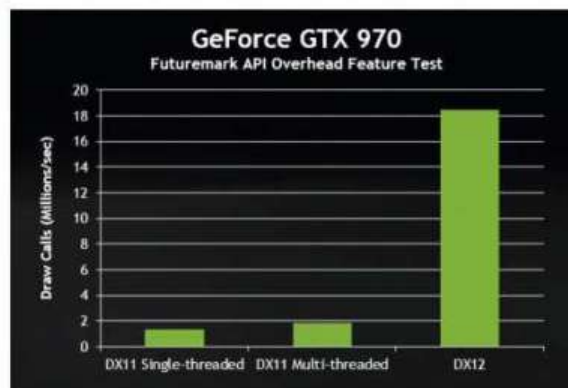


The release of a new Operating System is usually accompanied by a feeling of nervous anticipation followed by outright dread amongst gamers. Compared to the general PC populace, we're the most sensitive to software change, with our demanding games putting more pressure on the entire PC than nearly every other type of software. If something doesn't work quite so, it can destroy the entire gaming experience. It could be as simple as a broken refresh rate thanks to wonky monitor drivers, or as drastic as multiple-GPU setups no longer working caused by a revised version of DirectX; we're accustomed to the release of a new OS breaking *something*. With the recent release of Windows 10, many gamers have adopted the safe Wait-and-See approach, which usually equates to waiting to see just how horrible the new OS is at gaming. Windows 10 seems to be something different though – despite the leap in version number up to 10, this isn't really a giant leap forwards as an OS. It's more a lick of paint applied to Windows

8.1, which probably explains why it's already so good at gaming. We know this, because we've spent a month testing the ins and outs of this operating system in our regular gaming box. We've benchmarked the bejeesus out of it, but before we get to the performance metrics, let's check out the new gamer-specific features that Microsoft has included.

DIRECTX TO THE POINT

If there's one killer feature in Windows 10 that makes this a must-have for serious gamers, it's the inclusion of DirectX 12. This is exclusive to Windows 10, which feels like a bit of a dick-move on Microsoft's behalf, but it's not the first time they've done this – DX11.1 was exclusive to Windows 8. There's a reason this is exclusive; it's going to deliver a massive leap forwards in PC graphics, the likes of which we haven't seen since the first 3D accelerators. Savvy gamers simply *must* upgrade to Windows 10 lest they be behind in a land filled with Minecraftian graphics. Or so Microsoft would have you believe, as



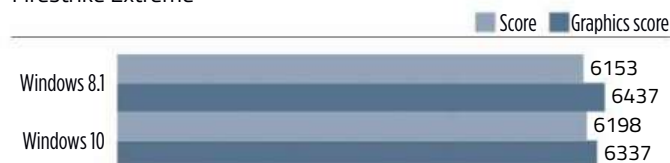
it's screaming from the rooftops about how bloody awesome this new API is. If the hype is to be believed, DX12 will deliver photorealistic graphics running in stereoscopic mode over next year's VR headsets at 100fps, all while running on a processor as powerful as a pocket calculator. Ok, so maybe that's a bit of an exaggeration, but we've seen claims bandied all over the place that DX12 can improve PC graphics performance by as much as 1000% on today's hardware.

DX12 works like a low level language with less API overhead

Windows 10 Benchmarks

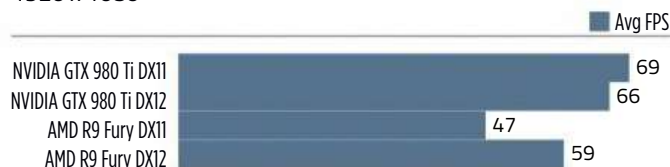
3DMark

Firestrike Extreme



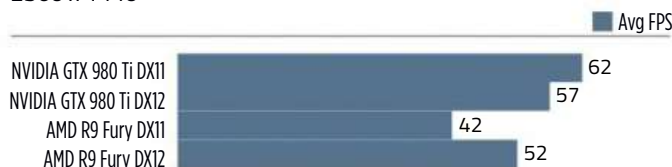
Ashes of the Singularity

1920 x 1080



Ashes of the Singularity

2560 x 1440



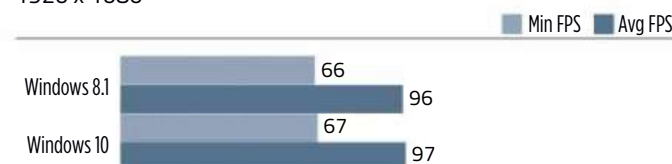
GRID Autosport

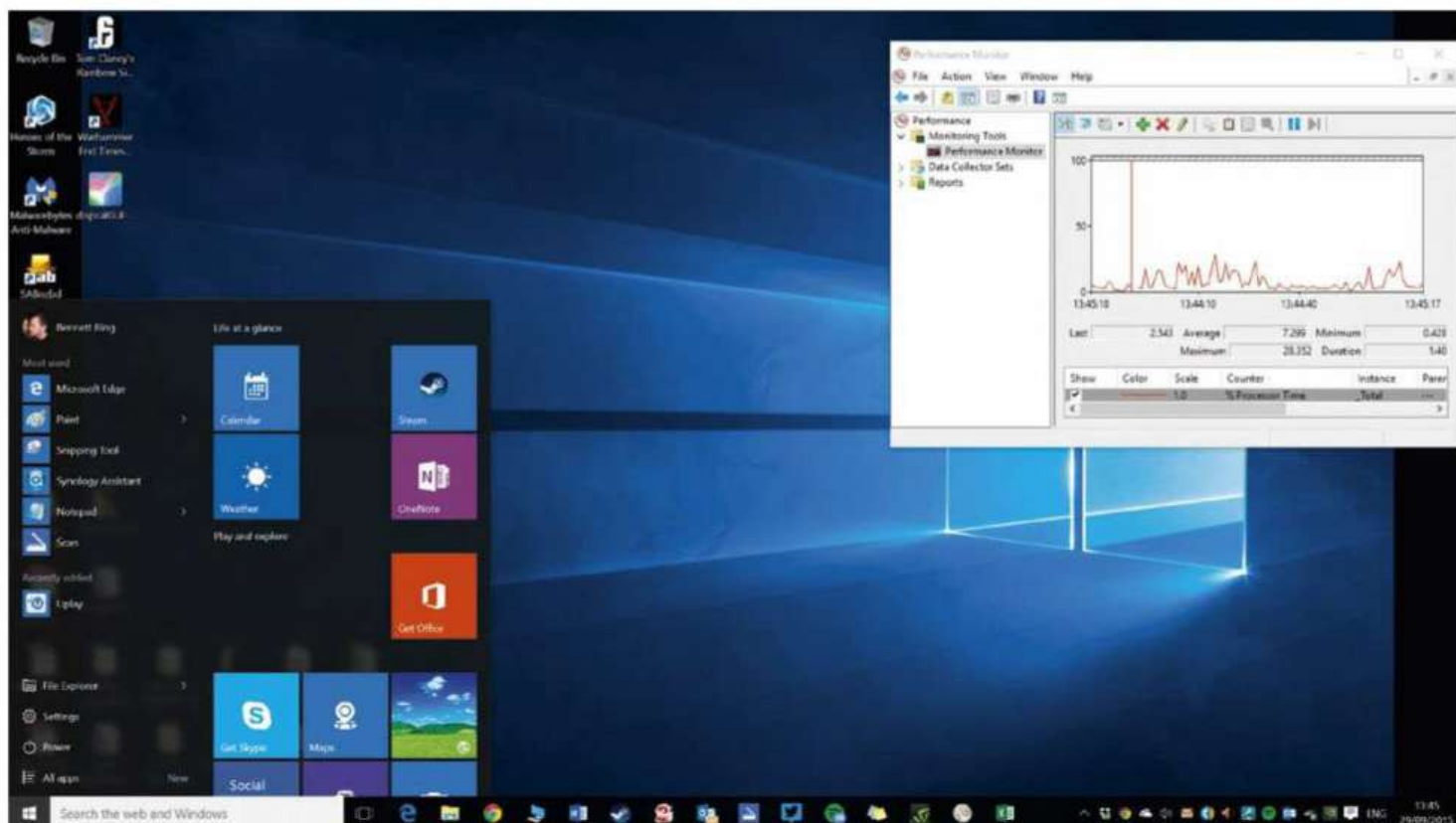
1920 x 1080



Shadow of Mordor

1920 x 1080





Unfortunately the truth isn't so simple, for a number of reasons.

First though, a primer on what DirectX actually does. This Application Protocol Interface (API) allows programmers to work with the multimedia related features of Windows – graphics, sound effects, music, control inputs and more. It's useful because PCs are built from a huge range of hardware, making it impossible for developers to write code specific to each component. Instead, when using DirectX they can use a generic command, such as paint a polygon a certain colour, which is then translated by DirectX into the various commands that are understood by NVIDIA, AMD and Intel GPUs. While it makes programming the PC simpler, it also introduces processing overhead, as the API needs to translate the coder's instruction into a format that the hardware will understand. This is why consoles tend to offer significantly better performance than an identically specced PC; as their hardware is fixed and identical, programmers can write low-level code that speaks directly to the hardware, with no need for the translation overhead.

The benefit of DirectX 12 is that it operates more like a low-level language, with less overhead. While this should

have a significant impact across general performance, it increases performance massively in one area where the PC lags far behind the consoles – draw calls. Every time an object needs to be drawn in a frame, the CPU needs to issue a draw call to the graphics API. Even the fastest PCs running DirectX 11 are limited to around 10,000 draw calls per second, which limits the complexity of the image they can draw. However, DX12 increases this massively, up to around 600,000 draw calls per second, well in excess of today's consoles. Therefore our graphics will be 60 times as pretty under DX12, right? Well, no. For starters, draw calls are just one part of creating a 3D scene, and simply increasing these without equally massive boosts in all of the other parts of the graphics pipeline won't have much of an impact, except in scenes that are draw call-limited. Secondly, today's programmers have figured out very clever ways to get around today's draw call ceiling, increasing it above the 10,000 limit. So simply increasing draw call numbers even just tenfold doesn't necessarily mean ten times more polygons on screen. We can expect some kind of boost, but it's impossible to say just how much it will be until we start to see more DX12 engines.

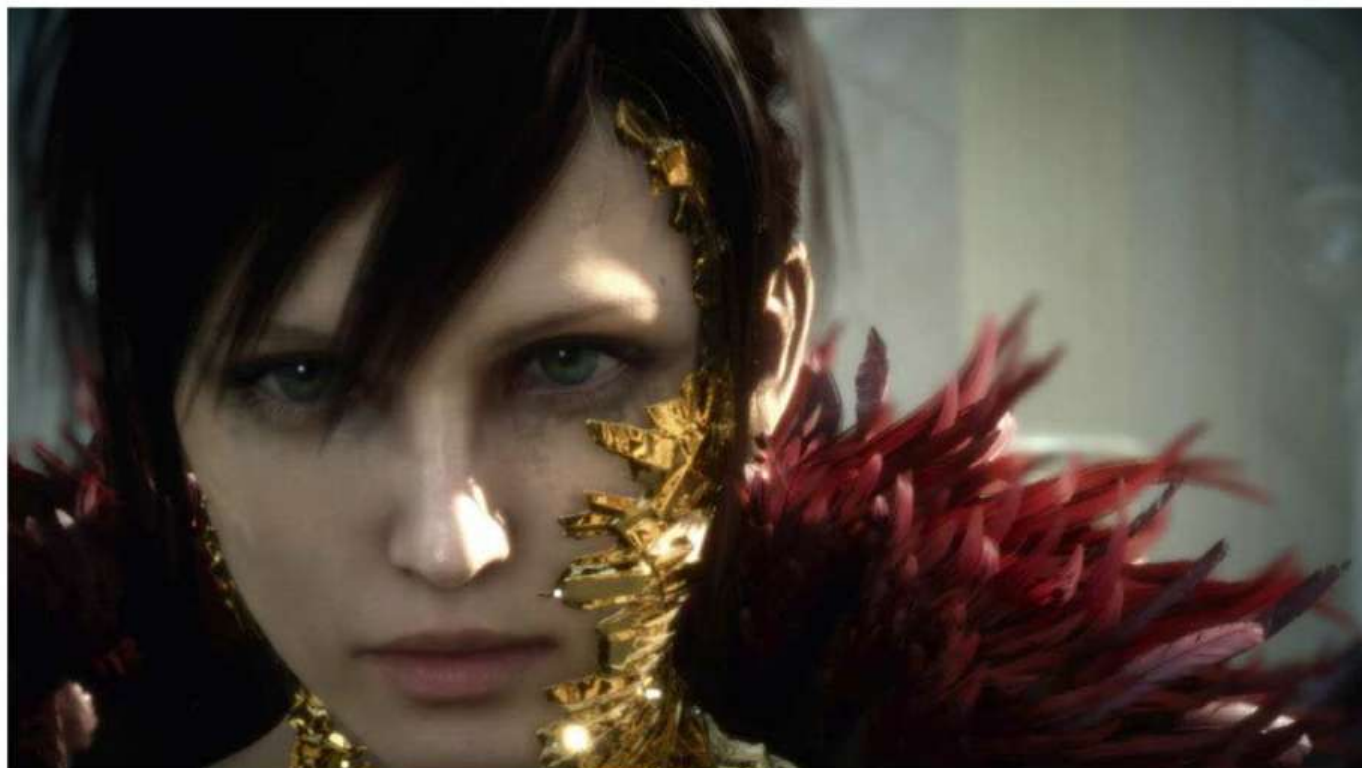
■ The benefit of DirectX 12 is that it operates more like a low-level language ■

DX12 WANTS ALL YOUR CORES.

Another, more tangible, benefit of DX12 is that it's built to handle multiple processors much better than its predecessor, regardless of whether we're talking CPU cores or GPU cores. In the past DirectX was built to operate on a single CPU core, but the new version is designed to scale beautifully across as many cores as you can throw at it. This should deliver solid performance increases, especially to AMD's octa-cored chips, but again it's not a miracle solution. While multi-threaded programming takes advantage of multiple cores, there are often situations in programming when the whole CPU

DX12 is built to handle multiple processors





The SquareEnix
Witch Chapter
0 [cry] real time
DirectX12 demo

is held up waiting for the result of one instruction, and it doesn't matter if you have one or eight cores waiting on it. Still, we should see some pretty generous performance increases when using four or more cores.

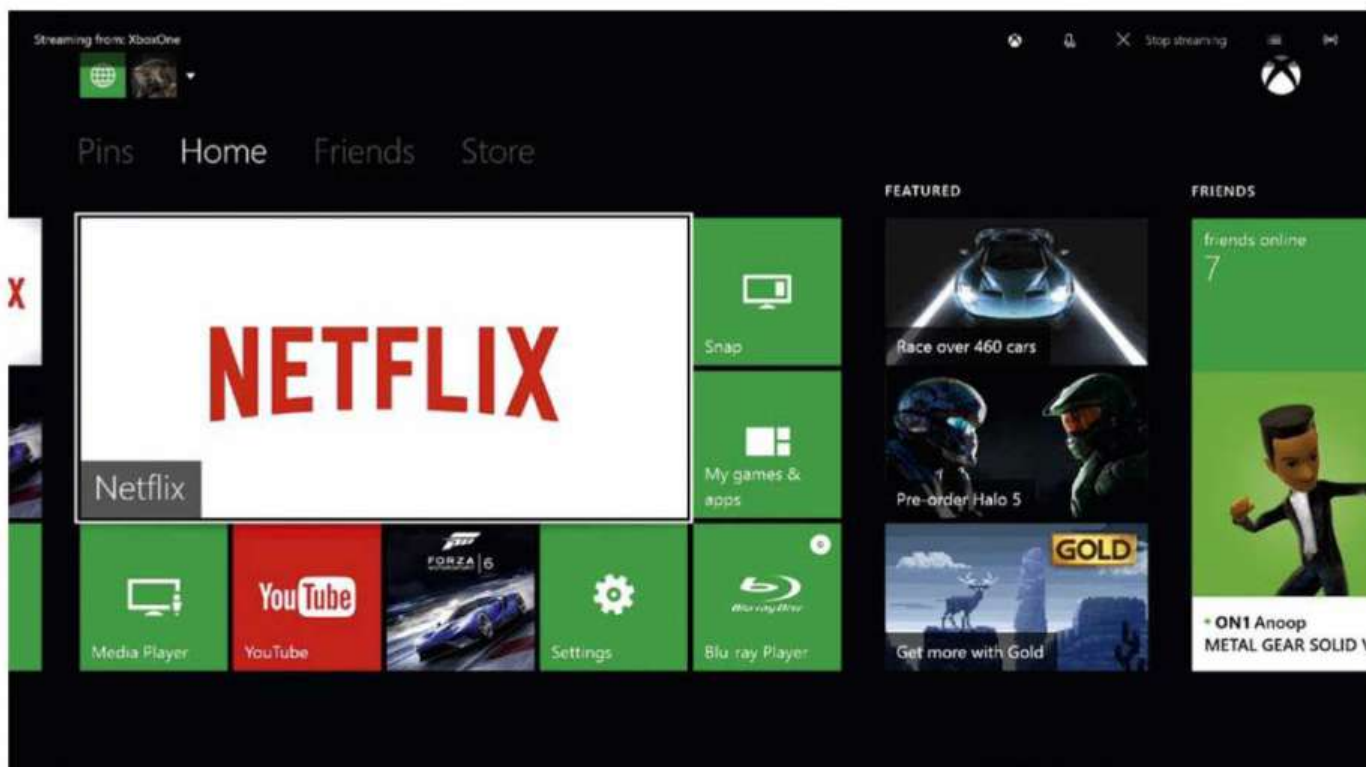
More interesting is that DX12 is built from the ground up for multiple GPUs. We recently spoke to AMD about the matter, and discovered that this should mean the end of CrossFire and SLI profiles in DX12 games. AMD and NVIDIA won't have to make sure their drivers work with a game; instead it's up to the game developer to ensure their game can scale over multiple GPUs. Best of all, DX12 can handle GPUs that aren't identical. You could run an AMD and NVIDIA card, and it should work, with the game asymmetrically and dynamically shifting the workload to where it will run best. This is great news considering that most Intel CPUs now pack an integrated GPU that sits idle

in gaming machines, with the discrete video card doing all the heavy lifting. In DX12, the game should be able to leverage this unused iGPU alongside the discrete graphics card, contributing to a performance increase. DX12 also means that the combined memory buffers of each GPU can be combined to create one massive memory pool. For example, a PC running twin graphics cards with 3GB of onboard memory will now have a video memory of 6GB (today it will be reported as just 3GB). This sounds amazing, but it's worth noting that exceeding the memory of a single GPU could result in huge performance hits, as the code would need to access the shared memory across the PCIe bus rather than directly on the graphics card.

There are a myriad of other improvements buried deep within DX12, but the above are the major ones. Thankfully most modern GPUs should run DX12 without any issues. All of AMD's cards from the HD 7000 series and up, along with NVIDIA's 400 series and upwards, should work with DX12. At the time of this article, there was fierce debate amongst the GPU community about which company offered the best DX12 performance, due to a feature called Asynchronous Compute. It's an incredibly technical discussion, beyond the scope of this article, but currently AMD products have a huge lead when

this feature is used. This partially explains AMD's lead in the one DX12 game benchmark, which we'll get to in a minute. However, NVIDIA claims that its DX12 drivers simply aren't ready, and it will introduce better support for asynchronous compute in the future, as and when it's needed.

DX12 certainly has the capability to change the way today's games are programmed, but like any new API, it's going to take some time before it becomes the norm. At the time of writing, there wasn't a single DX12 game on the market, unless we count *Ashes of the Singularity*, a DX12 powered title that is in Alpha. This RTS game specialises in displaying a huge number of units on screen simultaneously, which typically requires a lot of draw calls. We benchmarked it on our usual test bench, using a Gigabyte GTX 980 Ti to represent NVIDIA, and a Sapphire R9 Fury to represent AMD. As our tests show, AMD's performance increases when switching from DX11 to DX12, though not by a big enough margin to match NVIDIA's numbers. On the flipside, NVIDIA's performance actually decreased when moving from DX11 to DX12, the opposite to what we'd expect. It's no wonder then that NVIDIA has gone on record to dismiss this alpha as a benchmark, with Brian



Burke, Senior PR Manager at NVIDIA recently stating that, "We do not believe it is a good indicator of overall DirectX 12 gaming performance." Just to nail their point home, he then went on to state how NVIDIA expects DX12 games to perform on AMD vs NVIDIA hardware. "When accurate DX12 metrics arrive, the story will be the same as it was for DX11." Ouch.

WHAT ABOUT TODAY?

While the story of DX12 performance has yet to be told, one area where we can measure Windows 10's merit is in performance using today's games. In the past it's been commonplace for a new version of Windows to lead to slight decreases in game performance, as a result of early drivers and a lack of optimisations. To see how Windows 10 fared, we fired up our usual gaming benchmarks, this time grabbing MSI's GTX 980 GPU to test performance. As you can see, performance was basically identical across all three benchmarks. There was a slight variance across our tests, but these were well within the standard deviance expected from each benchmark. We've also updated our main gaming rig since Windows 10 was released, and haven't encountered a single issue with game compatibility of performance. Having said that, Microsoft recently acknowledged that

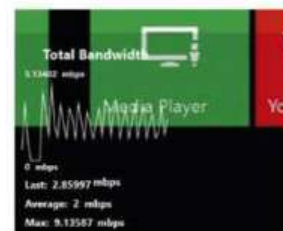
both Safedisk and SecuROM won't work properly with Windows 10. Older disk-based games that use either of these services will either need to be cracked, or savvy users can follow this rather technical guide posted by Microsoft, which will sign the necessary driver files: [https://msdn.microsoft.com/en-us/library/windows/hardware/ff553467\(v=vs.85\).aspx](https://msdn.microsoft.com/en-us/library/windows/hardware/ff553467(v=vs.85).aspx)

GET YOUR UPGRADE ON

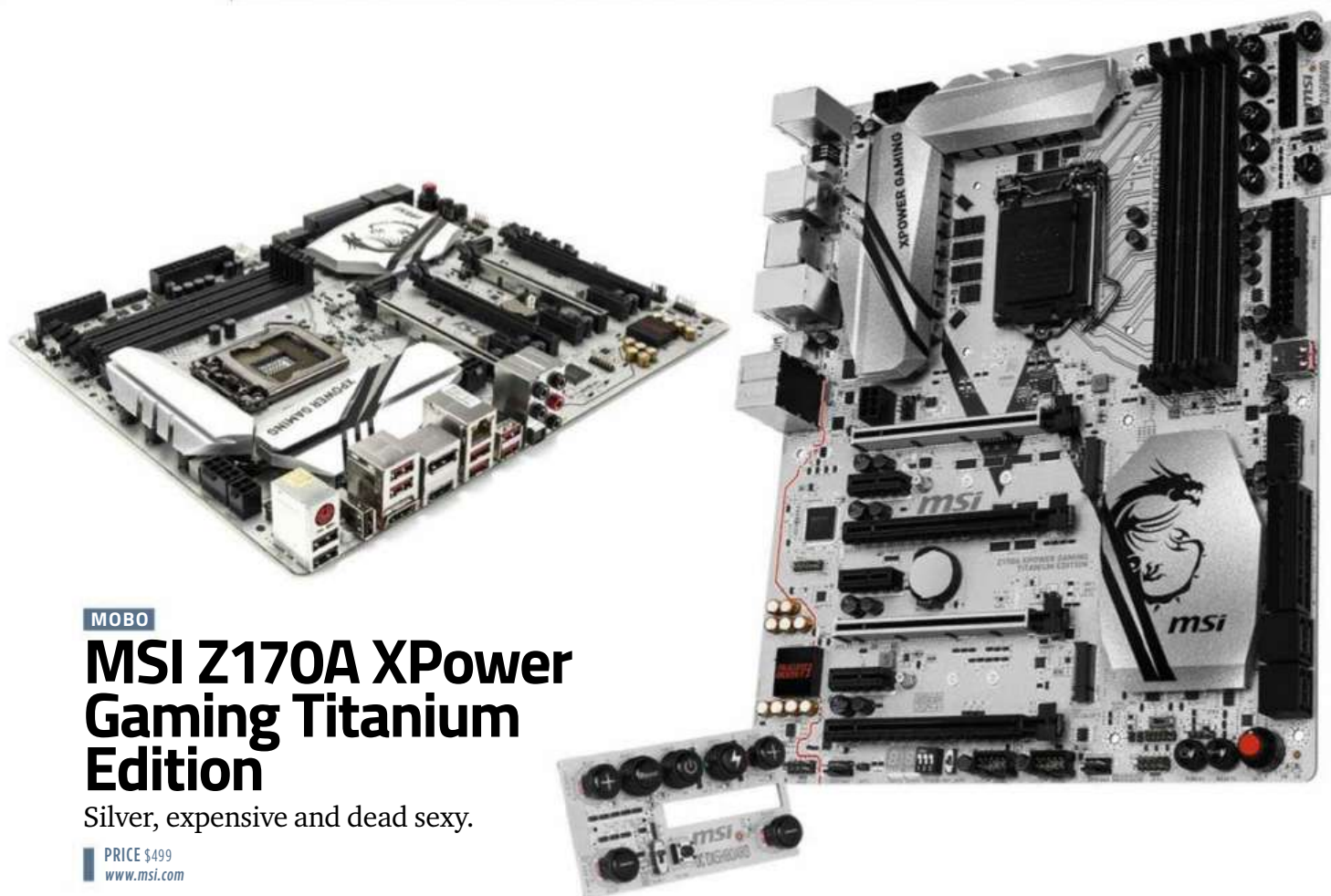
Given the fact that Windows 10 is free, combined with its excellent performance results, we can happily give Microsoft's new OS the big PC PowerPlay tick of approval. It's going to become a mandatory upgrade in the future as DX12 takes off, but even now the refreshed interface and inclusion of several new useful features make it a welcome upgrade. If there is one flaw with Redmond's new Operating System, it's the massive volume of information that Microsoft gathers about its users, but there are countless guides online about how to disable these to keep your computing habits private. It's not often that we'd recommend upgrading to a new OS as soon as its released, but Windows 10 has bucked that trend. The only question now remaining is whether Microsoft's latest OS is enough to turn the company's fortunes around, after the dismal take-up of Windows 8. **PC**

XBOX ONE ON YOUR PC

Another nifty feature of Windows 10 is the ability to play your Xbox One via your PC. Simply download the Xbox App for Windows, and fire it up. If your Xbox One is powered on and connected to the same network as your PC, it should show up in the Xbox One tab of the app. Hit connect and bam, you're good to go – it really is that easy. You'll need to plug an Xbox controller into your PC to play games or even simply navigate the UI, and we found the best experience was via a wired Ethernet connection, which minimised latency. However, even on a high-speed WiFi network performance was acceptable in Forza 6, though we did need to drop the stream quality from Very High to High. Microsoft even includes a helpful little bandwidth monitor to see just how much data you're chewing through.



both Safedisk and SecuROM won't work properly with Windows 10



MOBO

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Half a grand used to be a rather high price to pay for a gaming motherboard, but the introduction of Skylake seems to have changed that. Whether it's the pathetically low Aussie dollar, or the inclusion of expensive features on these Z170 boards, we're now seeing \$350 as around the norm for a decent gaming board. Therefore this board from MSI isn't quite the stretch it used to be. Also, it's finished in a stunning silver colour, which was reason enough for us to review it. Hey, we like good looking things as much as the next person.

We're pretty sure the silver finish of this motherboard added around \$2 to the cost of production, so we implore other manufacturers to do the same. It just looks great, and is the kind of thing that justifies a Perspex window. But what about the basics? Well, this board has all the usual boxes ticked.

Quadruple full-length PCIe slots deliver ample space for triple GPU setups, two of which have metal reinforcements, along with three PCIe x1 slots. M.2 connectivity is all the rage on Z170 boards, and it's nice to see two of them included on this model, which is about the maximum the Z170 chipset

can accommodate without knocking out Ethernet and USB. Speaking of which, MSI has wisely stuck with Intel's new I219-V Gigabit LAN controller, foregoing the bloatware and latency issues of the Killer solutions being pushed so heavily elsewhere. As for USB ports, there are a total of nine USB 3.1 ports including internal headers, with another seven USB 2.0. MSI has gone with the old Type A connector, choosing not to include any Type C USB connections, which is a bit of a shame.

The Z170 chipset delivers six SATA 3 (6Gb/s) ports, with another two provided via an ASMedia controller. However, if you use both M.2 ports to their full capacity, expect to lose four of these ports. Realtek's ubiquitous ALC1150 audio codec is the basis for MSI's Audio Boost 3 solution, which adds extra noise isolation and custom capacitors and amplifiers to deliver sound-card quality. Without doing back to back A/B testing it's hard to say which high-end mobo solution is the best, but users will find the hardware here does a damn fine job. Nahimic software delivers virtual surround, which is a capable substitute for the real deal, Dolby Headphone Surround.

Overclockers are extremely well catered for with this board. As well as the rotating dial, aka Game Boost, that automagically overclocks your CPU, MSI has packed in a small add-in card which it calls the OC Dashboard. This basically allows for more granular overclocking outside of the BIOS, and includes LN2 functions. Throw in a beefed up power solution for cleaner, stabler CPU power, and one of the nicest graphics BIOS we've used, and this board is great for a spot of CPU pounding.

Ok, so \$500 is still quite the price to pay for a motherboard, especially as many of the features here aren't relevant unless you're a serious overclocker. However, it's also got all the basics well and truly covered, along with a stunning design and plenty of clever little tweaks that we didn't have room to mention. **BENNETT RING**

- So darn pretty!
- Great overclocking features
- All the basics covered

- Rather expensive
- Still uses Realtek as basis for audio

VERDICT:

This stunner of a board comes with a stunner of a price, but will make for a ripper of a backbone for any premium gaming PC.

8



VIDEOCARD

MSI GTX 980TI Lightning

Warp Speed 9

PRICE \$1249

www.msi.com

If you want the ultimate in performance for your PC, NVIDIA's GeForce GTX 980 Ti graphics chipset is the one for you. Well, unless you're bat-shit crazy and reckon 12GB of onboard RAM is worth paying \$1500 for, in which case go right ahead and buy a Titan X. Despite attempts by AMD's Fury X to unseat NVIDIA from the performance throne, the 980 Ti takes the lead in most real world examples, and that's before it's been given the Lightning treatment. This refers to MSI's most exclusive range of GPUs, which have been sold under the Lightning brand for several years now. Put simply, Lightning products are built around the best GPU, strapped to the best components and cooler, delivering the most overlockable product on the market. Let's see how this year's Lightning compares to prior versions.

Designed to tame a 700W brute, the new TRIFROZR cooler should easily handle the 300W or so pumped out by a normal 980 Ti chip. Comprised of three 90mm fans over a heatpipe/fin solution, it'll easily tame the GPU even when overclocked, and we couldn't detect any fan noise over our system sound during benchmarking. MSI has also included an LN2 heatsink in the box if you want to risk frying your new \$1250 investment.

There's also an LN2 mode switch for this very purpose.

MSI has ditched the reference board design, instead using a new board comprised of a ten-layer PCB for extra signal stability. It's also got a rather insane 12 phase power solution for the GPU, and another three phases for the memory. No wonder it needs twin eight pin and one six pin power plug, delivering up to 375W of power to the card. All of these extras result in one heavy mofo of a card, tipping the scales at 1.365kg. A variety of pin-outs allow the connection of a multimeter for voltage monitoring, while the usual triple DisplayPort, single HDMI 2.0 and single DVI-I deliver video out.

MSI has hand-picked the GPUs used within the Lightning range to deliver the best overclocks possible. They've already factory overclocked it with a default speed of 1203MHz and a Boost frequency of 1304MHz, but it's easy to squeeze more out of this thing. Unlike most NVIDIA-based cards, MSI has really unlocked the voltage potential on this thing, with a maximum of 1.3V applicable once the special BIOS switch has been moved into the correct position. Yet applying that much on air is suicide – we went with a much saner 1.2V for our testing. With this

■ In the real world, this should equate to performance increases of anywhere between 20 and 30% in games ■

voltage we were able to hit a stable Boost frequency of around 1425MHz, a huge 40% increase over the stock performance. In the real world, this should equate to performance increases of anywhere between 20 and 30% in games. Memory also clocked brilliantly, hitting a top speed of 8.4GHz with only a minimal voltage bump.

At these speeds this card will eat a Titan X alive, all for \$250 cheaper. Yet it'll remain whisper quiet in the process, and we can't wait to see what serious tweakers will accomplish with a pot or two of LN2. **BENNETT RING** 🇬🇧

- Insane overclocking potential
- Silent performer
- Kills a Titan X

- Overclocking is at your own risk

VERDICT:

Welcome to the fastest graphics card on the planet, which only costs \$150 or so more than plain Jane GTX 980 Ti.

10

MOUSE

Cougar 500M gaming mouse

No muss, no fuss

PRICE \$49


www.cougargaming.com

The Cougar 500M is a simple, to-the-point gaming mouse. It's not adorned with any flashy features, nor does it carry an accompanying sky-high price point. At fifty bucks it's right on the edge of budget territory, yet its solid build quality and excellent performance make it feel like it costs a whole lot more.

If you're looking for a mouse with more buttons than a rocket ship console, look elsewhere. The usual six are in place on this mouse, though the DPI switch uses a unique design, feeling more like a rocker and making it easier to adjust on the fly. Three small LEDs on the left side indicate which of the three DPI modes is selected.

Lefties will be out of luck with this mouse as it's a right-handed design, and we found it fit nicely in the palm

of our slightly smallish hands. It's neither light nor heavy – Goldilocks would describe it as “just right”. The entire case is made from plastic, but the textured sides make gripping the mouse easy. All of this means nowt if the sensor isn't any good, but the ADNS-3090 is a ripper. This 4000 DPI optical sensor tracks beautifully without any acceleration or quirks. It's so nice that it feels on par with mice twice the price.

It may not have a flashing LED that displays your e-Sports sponsor name, or removable weights to make it just right for the gravity of your chosen tournament hall, but the 500M is a fantastic, no-nonsense gaming mouse. Awesome value. **BENNETT RING** 

- Excellent sensor
- Very comfortable design
- Nice software

- Only six buttons

VERDICT:

If you're looking for an affordable mouse that doesn't feel cheap, the 500M is perfect.

9



KEYBOARD

Corsair Strafe Mechanical Keyboard

Back to reality

PRICE \$149

www.corsair.com

There's no denying that Corsair's hit keyboards, the RGB K70 and K95, were both sweet pieces of kit, but when demand was so high it sent prices well north of \$200, the price simply wasn't justified. We're mere mortals here at PCPP, so when we saw Corsair's newest keyboard was a much more reasonable \$150, we couldn't wait to check it out. The Strafe sits smack bang in the middle of mechanical keyboard pricing, so how does it compare to myriad competitors?

As expected, real Cherry MX keys have been included, in either red or brown flavours. Each is individually backlit, but the colour is fixed to either red, nothing, or somewhere in between. We went with a steady low red for our darkened gaming den. Sadly there isn't a single macro key on this keyboard, nor any dedicated media keys, with the user having to rely on keyboard shortcuts to get those jobs done. Corsair's new

CUE software handles all macro recording, and we have to say that it's a little bit scrappy, almost as if it's still in beta mode.

A few textured keys are included in the box, replacing the WASD keys if you feel the need. A single USB pass through port adorns the rear of the keyboard, with nary a headphone nor microphone jack in sight. Wrapping things up, the all-plastic construction isn't quite as solid as the metallic keyboards we've seen in this price range.

As you can see, the Strafe really is a no-frills affair. It's a sturdy, reliable yet very simple offering for the price, which doesn't quite cut it when there are other keyboards at the same price but with better features, or identical boards at lower prices. **BENNETT RING** 

- Cherry MX FTW
- Decent build quality
- Affordable

- No macro or media keys
- Plastic chassis
- Scrappy software

VERDICT:

Corsair hasn't delivered quite enough to make this stand out from the extremely crowded mechanical keyboard market.

7



HEADSET

Corsair VOID RGB USB

All about that bass, about that bass

PRICE \$129


www.corsair.com

Gaming headsets make big bank for hardware vendors, with every man and his dog vying for your audio attention with their latest set. Corsair has just unveiled its brand new VOID RGB range, with three different models aimed at various price points. The USB kit here is the mid-range model, delivering the same sound quality and features as the \$200 kit, but without wireless support. Let's see what your \$130 gets you.

The new design of the headset is as iconic as it is comfortable. Corsair leveraged the help of the chaps at BMW Designworks to come up with its funky lines, which somehow looks supremely cool, while remaining easy to wear over long periods of time. The fold-down mic includes a couple of LED lights that should indicate when the mic is muted; we couldn't figure out how to get this to work.

Installing the optional Corsair CUE

software reveals a relatively simple audio tweaking interface. From here the user can turn on Dolby Headphone Surround support, or set the equaliser to one of five presets, or manually adjust it. No matter which setting we used, we found these headphones to be extremely bass-heavy, which is apparently what a lot of gamers want. At this price point we can't expect the crisp performance of studio monitors, though some may find the VOID's focus on the low end a tad simplistic. Still, they make explosions go boom real good.

With a great fit, good voice quality, Dolby Headphone and above average sound quality, the USB version of the VOID range offers excellent value for money. However, their focus on boomtastic bass means similarly priced headphones offer a superior audio experience. **BENNETT RING** 



- Super comfortable
- Dolby Headphone Surround
- Quality Mic

- Very bass-heavy
- Mid and highs are a little lacklustre

VERDICT:

For the price, these are real nice. If only they weren't so like, totally addicted to bass.

7

HEADSET

Corsair VOID RGB Stereo

The cheapest of the range is the best


PRICE \$95

www.corsair.com

For less than a hundred bucks, the Stereo version of Corsair's new VOID RGB range gives you the exact same 50mm neodymium drivers found in its \$200 wireless range. You also get the same super sexy design, which looks like it'll happily handle a few close encounters with your rear end, when you inevitably sit on them sometime in the near future. You even get the same quality microphone as the others in the range. So what's different?

Well, unlike the other two, the Stereo kit connects to your PC via a 3.5mm stereo minijack, and doesn't include any form of audio processing. This is actually a good thing for those with sound cards or quality onboard audio, and it also means that you can connect these headphones to your phone, amplifier or mobile gaming device. Yep, they're actually the most versatile of the lot, despite being the cheapest.

And at this price range, the bass-heavy response stands up well against the competition. Mid to high-end performance is more than good enough when compared against other sub-\$100 headphones, making these our pick of the bunch. It'd be a different story if we were reviewing the \$200 wireless version; they're up against bad boys like Audio Technica's superior ATH-M50X, which is no competition.

But for one hundred buckeroones, the Stereo version of the VOID RGB is a fantastic buy. They look hot, feel great, and sound excellent at this price point. Throw in Corsair's brilliant build quality and these headphones are a great way to blow your eardrums, without blowing your budget. **BENNETT RING** 



- Most versatile in range
- Same drivers as other VOIDS
- Good mic

- Still boomtastic
- No Dolby Headphone

VERDICT:

The cheapest in the VOID RGB range are actually the best, as they're not competing against sonically superior headsets.

9



PROJECTOR

Epson TW5300 Projector

Big-screen gaming, on a small-screen budget

PRICE \$999

www.epson.com.au

I've been a vocal proponent for projectors for almost 15 years now, ever since I fired up my first 720p model hooked up to an Xbox, and was blown away by the *true* big-screen experience. I've never gone back to gaming on a monitor since then, it's that bloody good, with only VR tempting me away from its epic levels of immersion. Epson absolutely dominates the projector market here in Australia with over 50% of local sales, and its 9300 has been on our Beast page for quite some time. This month sees the arrival of its more affordable sibling, the TW5300. At a fraction of the cost, this is the perfect entry-level projector for gamers, and in some ways is even superior to its bigger bro.

Like all Epson projectors, the 5300 uses 3LCD technology to pump out a vivid image. It's not quite as good as DLP when it comes to rich colours, but it doesn't have any of the weird rainbow effect problems of DLP projectors at this price point. It's a full 1920 x 1080 model, as to be expected, with a maximum refresh rate of 60Hz. During my testing, I was very impressed by the brightness on offer – it's quoted as 2200 Lumens, and it certainly lived up to those claims. This extra brightness really comes in

handy when switching to 3D mode, as the LCD shutter glasses naturally block some of the light.

Epson claims a contrast ratio of 35,000:1, but note that it's a dynamic ratio. This implies the use of a dynamic iris, which can lead to noticeable brightness shifting during scene-swaps. If there's one flaw in this projector, it's the contrast performance, yet it's still phenomenal for a projector of this price. Comparing the 9300 to the 5300, it's easy to see the drop in contrast performance, but for just over a grand the 5300 pumps out a very detailed picture. It passed all of the basic contrast tests with ease, and dark scenes in movies and games were endowed with plenty of detail.

One flaw with the more expensive 9300 is latency – when set to the fine image quality, input latency is over 100ms. Setting image quality to fast solves this, but introduces a much rougher image, to the point that small text can be a little hard to read. The 5300 has the exact same setting, but selecting the fast mode delivered a much clearer picture, making it the superior for gaming in some regards. There's another minor flaw, in that the lens zoom isn't very flexible. You'll need to mount the projector relatively close to the screen

to stop the outputted image from being too high – our original testing distance of around four metres was too far.

The final knockout punch for this projector is globe life. Epson claims it'll last an insane 7,500 hours when run on Eco mode (which drops the brightness to 1500 Lumens, which still looks fantastic), or 4,000 hours at full brightness. That's simply incredible; if bulbs are around the \$350 price point of other projector bulbs, the cost of running is a very low 5c per hour.

Make no bones about it, the 5300 smashed my expectations for a projector of this price. If I was tossing up whether to go with a 30 inch 4K monitor or this thing for my gaming and movie viewing, there'd simply be no competition – this projector delivers an eye-ball stretching experience that smaller screens simply can't supply.

BENNETT RING

- Excellent image quality at this price
- Incredible globe life
- Brilliant fast image processing
- Weaker contrast than expensive projectors
- Low-range zoom

VERDICT:

Joining the projection revolution has never been as affordable as it is now, nor as good looking for this price.

10



NUC

ASRock BeeBox

One busy little bee

PRICE \$340
www.asrock.com

Intel's Next Unit of Computing hasn't quite taken the world by storm, with these palm-sized PCs lacking the oomph necessary for meaty multimedia work, especially in this era of 4K video. However, several spin-offs of the basic NUC design have attempted to tackle this issue, and ASRock claims its BeeBox is the first that can reliably run 4K video.

It does so by using a dual channel memory configuration, whereas other NUCs are limited to single channel. Twin sticks of 2GB DDR3 1600MHz are included in the version we were supplied, and we tested several 4K demo videos. Playback was smooth and judder-free, very impressive for such a small PC. It's no doubt aided by Intel's Celeron N3000 processor, a twin core chip that ramps up to 2.08GHz under load, yet doesn't require a fan to prevent it from melting. This lack of a fan results in a truly silent PC, giving it another tick in regards to being a potent HTPC. However, this CPU doesn't support hardware decoding of HEVC Main 10, which is looking to be the dominant standard for 4K compression, and will be the format utilised by the upcoming 4K Blu-ray standard. It's something worth noting if you're

looking for a 4K powerhouse – this machine will do the job, but it's not optimised for it.

Unlike Intel NUCs, ASRock has endowed this little ripper with excellent video outputs, in the form of twin HDMI 1.4a and a single DisplayPort 1.2a, the latter of which can handle 4K at 60Hz (HDMI 1.4a will only do 4K at 30Hz, which is still fine for movie viewing). There's also a single Ethernet port on the rear, while built in 802.11ac Wi-Fi delivers speedy wireless networking. Our sample came with an optional 128GB mSATA SSD, but there's also just enough room to squeeze in a standard 2.5 inch SATA SSD. We slotted a Crucial 500GB M500 drive into this slot without any issues. A single USB 3.1 Type C connector is at the front, along with twin USB 3.0 Type A connectors at the rear, while the Infra-Red remote allows for basic navigation in media apps.

This thing sounds like the perfect miniature HTPC, but there's on rather major issue – sound, or lack thereof. For whatever reason, the audio signal generated by the Intel CPU over HDMI or DisplayPort does not support Bitstreaming. It will do Linear PCM, but most amps can only work with

■ This thing sounds like the perfect miniature HTPC, but there's on rather major issue – sound, or lack thereof ■

the former, not the latter. There's also support for the usual standards; Dolby Digital/Plus and DTS, but serious users will miss the Blu-ray standards.

At just \$340 for the box, motherboard, CPU, memory and SSD, this offers outstanding value for money. Small enough to strap onto the back of your TV, it's almost the perfect HTPC box, and would also make for a capable emulator. **BENNETT RING**

- Excellent performance
- Great video outputs
- Silent operation

- No audio bitstreaming
- No HEVC Main10 hardware acceleration

VERDICT:

This affordable mini-PC makes for a very affordable HTPC, that can even handle 4K video if need be.

9



MONITOR

ASUS PG279Q Swift Gaming Display

How fast is too fast?

PRICE \$1199

www.asus.com.au

Welcome to the world's first 165Hz gaming display. Just when you thought 144Hz was fast enough, ASUS comes along and delivers an even faster speed. It's not that the panel they've used in the PG279Q is actually designed to run at this speed. No, ASUS has caught on to the craze that monitor enthusiasts have been doing for years now, and have overclocked it at the factory.

We're not sure that's such a big deal though, as we're hard pressed to tell the difference between 120Hz and anything over and above that. What is a big deal is that they've once again used an IPS panel inside this display, which offers a vastly superior viewing experience to the TN panels usually found within high-speed gaming displays. As well as better viewing angles, colours pop more than their TN counterparts, and they tend to have better contrast performance, leading to an overall better image quality. We have to admit that the image on the PG279Q passed all of our tests at www.lagom.nl with flying colours, and we were especially impressed with the contrast performance.

The resolution of 2560 x 1440 isn't massive for a 27" display, especially at

this price point, so why is ASUS charging so much for this monitor? The answer is in the dedicated gaming technology that the PG279Q carries, first and foremost being NVIDIA's G-Sync. This will work through the monitor's entire range of supported refresh rates, from 1Hz all the way up to 165Hz, and we tested it extensively. We found no issues with it, even when playing games that rapidly switched from a high framerate to a lower one, which can cause stuttering in some G-Sync displays. In the past we've recommended that 40Hz is about as low you want to go with G-Sync disabled, but after spending more time with it we're going to increase that to 45Hz or 50Hz; anything lower and the motion simply doesn't feel smooth, even if it might look like it.

ASUS has also included its brilliant Trace Free technology, which is known as overdrive on other displays. This helps clear up any form of motion blur when enabled, and we have to say that we didn't notice a hint of blur across a wide variety of games. There's also support for NVIDIA's Ultra Low Motion Blur tech, but it's incompatible with G-Sync, while Blue-Light filters and flicker-free backlighting lead to lower eye fatigue.

ASUS has also included its brilliant Trace Free technology, which is known as overdrive on other displays

It might be the most expensive 27 inch 2560 x 1440 display on the market, but ASUS has crammed the PG279Q with the latest in cutting-edge gaming display technologies. Our only concern is that G-Sync may not be around forever, given that Intel just announced it is supporting the rival Adaptive-Sync technology. Thankfully we're pretty sure NVIDIA will continue to support G-Sync for another five years at least, by which stage 8K displays will be the norm.

BENNETT RING

- 165Hz refresh rate
- G-Sync
- Beautiful image quality

- No Adaptive-Sync
- Buggy FPS display

VERDICT:

If money is no obstacle, the PG279Q delivers outstanding image quality at a pace that is unrivalled.

9

KEYBOARD

CM Storm Quickfire XTi

Substance over style


PRICE \$189

www.coolermaster.com

As with almost all mechanical gaming keyboards, this one's utility value extends beyond actual gaming. I'm typing on it now, and have been for a week, and can't see any need to change back to what I was using before because the Quickfire XT ticks all the boxes. The look is refined, with none of the extraneous frippery that can make buying a keyboard a farcical style choice. It's plastic, but the solid trustworthy kind, and because it's \$189 price puts it squarely against high-end metal-top choices like the Corsair K-range, I must say that not for a moment does the plastic feel less than properly premium, and that includes the key surfaces, which are UV coated and feel nicely grippy.

Red, Blue and Brown Cherry models are on offer. Despite our review unit being Cherry Brown, the keys offer a very quick and snappy movement. Most Browns

are softer and slushier than these, so whatever Cooler Master has done, the result is almost the clackiness of Blue, with the springiness of Brown. It's quite nice for gaming, but a little on the noisy side for use in a crowded office.

That's all good, but the Quickfire's mighty triumph is that you can adjust everything via a clever FN + function key arrangement, which negates the need for software. Complex lighting, key repetition rate, macros, profiles and media are selectable on the fly. It's terrifically simple, and most welcome, making this one of the better mechanicals you can buy. **BEN MANSILL** 



- Refined look
- Solid build quality
- FN+ functions

- Plastic
- Key feel a bit odd

VERDICT:

A great, simple and straightforward mechanical keyboard that substitutes frills for quality

8

KEYBOARD


Tt eSports Poseidon Z RGB

Light shows on a budget

PRICE \$149

www.rhermaltake.com.au

There seems to be a real habit for extraneous design elements to work their way into gaming keyboards – strange angular adornments, oddly shaped wrist rests or features that aren't particularly useful to anyone. The Poseidon Z RGB forgoes all these extraneous bells and whistles and is all the better for it. That's not to say the keyboard skips on functionality. The keyboard still boasts RGB LEDs, multimedia buttons and room for more than enough macros and profiles to fill all but the most extreme of needs. The keyboard utilises Kailh blue or brown switches. That's right – it's a keyboard that doesn't use Cherry. That said, the blue and brown switches feel extremely similar to the more familiar Cherry keys of the same colour, with the blues having a nice clickiness to them that feels great and is guaranteed to annoy anyone you work with, and the browns have the nice

resistance and squishiness of the browns. The main differences between the Cherry and Kailh switches is that the latter have a 5 year warranty. While the switches don't have the recognition of Cherry, they do help to keep the price of the keyboard down, as does the limited programmability of the RGB LEDs. That's not at all a bad thing at all. By cutting frills, Tt eSports have delivered a hell of a keyboard for a very respectable price. If you are operating on a budget and want the flashing lights that have become synonymous with gaming keyboards in recent years, look no further. **DANIEL WILKS** 



- Kailh switches
- All the keys you need
- RGB on a budget

- Basic RGB
- Not Cherry

VERDICT:

If you're looking for an RGB mechanical keyboard on a budget, look no further

9

HOTWARE²⁴⁵

with Terrence Jarrod

01 Sphero BB8

Price: \$250 • Distributor: Sphero

www.sphero.com

With the new Star Wars movie not too far away, it'd be a good time for Disney/Lucasfilm's merchandising departments to release a bunch of soulless cash-in toys, but instead we get BB-8!

POWERED UP: The cutest little droid in the Star Wars universe (not counting HK-47), BB-8 rolls around your house autonomously, or if you prefer, at your command. Using the mobile app you can guide where this droid goes, and if that doesn't sound like fun, then you can train it to respond to voice commands.

PLAYED OUT: "BB-8, kill my enemies." doesn't work. Sadface.

02 Star Wars Watch

Price: \$40,000 • Distributor: Devon

www.devonworks.com

A mass produced "geek" item this is not. This Star Wars watch by Devon will only be produced to 500 units, and you'd better be ready to EBay your kidney if you want one.

POWERED UP: Time is told on a system of interwoven glass-reinforced nylon timing belts, and the design is styled with inspiration from Darth Vader and TIE fighters, with colours and style from Vader's advanced TIE console, and a wrist strap evoking his gloves.

PLAYED OUT: This thing is so huge, you might as well just strap an actual TIE fighter to your wrist.

03 Amazon Fire 4K

Price: \$140 • Distributor: Amazon

www.amazon.com

If you rushed out to buy a 4K or UHD TV without considering what you were actually going to watch on it at that resolution, you might consider the new Amazon Fire 4K.

POWERED UP: A media centre to play video from Netflix, Amazon, HBO GO, and other services at 4K where available, and play over 800 games as well. Voice search functionality, 2GB of memory and 8GB of storage expandable to 128GB.

PLAYED OUT: Don't forget to calculate the cost of the video services you want to subscribe to, and a VPN/geo-unblocking service.

04 iPad Pro

Price: \$800+ • Distributor: Apple

www.apple.com/au/

Not content with rehashing a smartwatch this year, Apple is now releasing a Microsoft Surface Pro. Ahem. We mean, iPad Pro.

POWERED UP: 12.9" retina display, new (multi)touch technology for more accuracy, and a fancy keyboard/cover with bespoke contacts to transfer power and data, thus doing away with Bluetooth/battery issues. Four speakers also promise better sound than tablets to date.

PLAYED OUT: An upper limit of 128GB is still not a lot of storage, if Apple seriously wants to compete in the tablet-to-replace-your-PC arena where Microsoft is currently frolicking, with a new Surface Pro 4 14" rumoured for release soon.

05 Infento Rides

Price: \$300+ • Distributor: Infento

www.infentorides.com

Some kids are built to build, and while versatile, both Lego and Meccano just aren't great for constructing some things; for example, building vehicles capable of transporting a human. This is where Infento is stepping up.

POWERED UP: Take that creativity you applied to little plastic coloured bricks, and use it instead on an Infento kit to build a working bike/trike/gyrocopter. Currently on kickstarter, with over four times the target funding.

PLAYED OUT: Okay, maybe not a gyrocopter.



100% Australian 100% Independent

| XBOX PLAYSTATION NINTENDO PC MOBILE

HYPER



101 GAMES You Must Play

The games that defined genres,
pioneered mechanics and changed
gaming forever!



DEVS SAY MUST PLAY

We ask renowned game devs what
games they consider a must play

TOP GAMES NEVER MADE

The 15 most amazing
looking cancelled projects

EDUCATION SPECIAL

The state of games
education in Australia

ON SALE NOW

MENAGERIE

Say hello to Skylake. It's not a huge leap up from the last gen, but it is slightly faster for the same price, so it's time to install it where applicable.

BUDGET

The perfect entry-level gaming PC

CPU

AMD FX-4300 Quad Core
3.8GHz 4 Core Black Edt.

\$145 www.amd.com

We're sticking with AMD's budget beauty.



MOBO

ASRock 980DE3/
U3S3 AM3+

\$69 www.asrock.com.au

Our CPU needs a new ASRock home.



RAM

Gell 8GB Kit DDR3 Evo
Veloce C9 1600MHz

\$85 www.gell.com.tw

In with the cheapest we can find



VIDEO

PowerColor R9 380
PCS+ 4GB

\$349 www.sapphiretech.com

AMD's new 960 killer



POWER

Cooler Master
Thunder 500W

\$66 www.coolermaster.com

The budget beast doesn't need a lot of juice



SOUND

Sennheiser HD201
+ ASUS Xonar DG

\$38 + \$33 www.sennheiser.com

Headphones plus soundcard – yes!



OPTICAL

Lite-on DVD-RW

\$49 www.us.liteonit.com

We'd happily retire the drive, but some of you guys still believe in physical media.



STORAGE

Toshiba DTO1ACA050
500GB HDD

\$59 www.toshiba.com.au

Half a Terabyte should handle everything.



DISPLAY

Samsung 24"
S24D300H

\$189 www.samsung.com

Crystal clear 1920 x 1080 res gaming



CASE

BitFenix Shinobi

\$95 www.bitfenix.com

Nice for the price. This is the little brother of the case used in our Performance build.



KEYBOARD

Tt eSPORTS Challenger

\$49 www.thermaltake.com.au

Built for PC gamers.

Macros, shortcuts, the lot.



MOUSE

Gigabyte M6900

\$26 www.gigabyte.com.au

A sensor resolution of 3200DPI will make your headshots count.



TOTAL: \$1,232

PERFORMANCE

Most bells and whistles, without breaking the bank

CPU

Intel 5th Generation
Core i5-6600K +
Noctua NH-D15

\$350 + \$115 www.intel.com



MOBO

ASUS Z170 Pro
Gaming

\$270 www.asus.com.au

Our fave affordable Z170 board



RAM

Gell 16GB DDR4
2400MHz

\$175 www.gell.com.tw

Sweet, sweet DDR4.



VIDEO

Galaxy GTX970-4GD5

\$499 www.galaxytechus.com

NVIDIA's mid-range card is perfect



POWER

Corsair VS650

\$85 www.corsair.com

This affordable PSU delivers a clean and reliable source of energy.



SOUND

Audio Technica
ATH-A500X
w/ASUS Xonar DG

\$159 + \$33 www.audio-technica.com



OPTICAL

Lite-on DVD-RW

\$49 www.us.liteonit.com

This is the one bit of kit that stays the same between most of our machines.



STORAGE

W.D. Caviar Black 1TB
+ Samsung 850 EVO
250GB \$109 + \$165

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MOBO

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Deadly accurate and super comfortable.



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www.intel.com

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www.wdc.com

www.samsung.com



RAM

**G.Skill DDR4-3200
16GB Dual Channel
Ripjaws**

\$209 www.gskill.com

3200MHz is good for the Beast too.



DISPLAY

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\$3800

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PC GEAR SOLID

ASHLEY MCKINNON has the drive



Before we start to explain what an Solid State Drive (SSD) is and how it works we should first take a look at where we've come from.

Older hard drives used technology not too dissimilar to a record player in that a rotating disc (platter) was read and written to by an arm (actuator) which moved back and forth across the platters surface. This meant that when your computer asked for some information the actuator had to locate the data and read it. This all works well but as a hard drive starts to age and data is constantly written to and deleted from the hard drive – not all the data ends up being stored in a continuous stream. Data soon starts having to be written to “best fit” gaps, so you can end up with bits of information spread across the drive – this is called fragmentation. When this happens, you start to notice load times taking longer – as the actuator has to move over different parts of the platter to read the information. Running a defragmentation program can alleviate this and most new operating systems do this in the background – but the fact remains there are still moving physical parts which can only move so fast.

Solid State Drives are completely different in that they don't have any moving parts. Data on an SSD is saved in banks of memory called NAND flash. This NAND flash is non-volatile meaning it continues to hold information while powered off (unlike your computers RAM which loses data when you power down your PC).

NAND flash is made up of what are called Floating Gate transistors (also called cells). Insulated within an oxide layer are two separate gates – the Control Gate above the Floating Gate – which both sit above the Channel (substrate). Electrons can move freely between the Control Gate and the Channel when a voltage is applied depending on which side the power is applied. To program (add data) to a cell, voltage is applied to the Control Gate – drawing electrons upwards from the Channel. The Floating Gate traps these electrons as they pass through on their way up towards the Control Gate and this is how the data is stored.

To delete this stored data, voltage is applied to the Channel side of the cell which pulls the electrons out of the Floating gate back into the Channel.

These cells are checked quite regularly to see if they are holding data – and this is done by applying a voltage to the Control Gate and measuring how much voltage travels through to the Channel. If data is indeed being stored in the Floating Gate layer, then the amount of voltage read at the Channel layer will be lessened and the controller has confirmation of data storage.

All of this electrical activity does come at a cost. Overtime the physical structure of the cell starts to degrade and this is why SSD drives have a finite lifespan – which is measured by the amount of Program / Erase (P/E) cycles.

To increase the capacity of NAND Flash manufacturers have been able to increase the amount of bits that a cell can hold. A Single Level Cell (SLC) can hold 1 bit of data per cell while Multi Level Cells (MLC) can hold 2 or 3 bits per cell (some manufacturers have recently announced they have been working on 4 bit cells).

The advantage of MLC NAND over SLC NAND is quite obvious – more capacity in one place means lower manufacturing costs – resulting in lower cost SSD's to the consumer. There is a trade off however as more bits per cell mean more wear on the physical cell – as more monitoring of the cell is needed to know how much data is being stored and this in turn affects performance.

Sitting between this NAND Flash memory and your PC is the SSD controller – which manages all the calls and requests put forward to the SSD. It handles the fetching of the requested data, as well as the writing and deleting of new and old data.

The controller is also responsible for keeping the SSD in good health. It does this by performing processes such as Bad Block Mapping (where degraded NAND cells are marked as bad and not to be used), Error Code Checking (ECC) and Garbage Collection (which involves moving data around to keep it consistent in structure).

As stated – the controller is the link between the SSD and the host computer – and this typically uses the SATA (Serial ATA) interface. SATA was a big leap forward in performance from the previous IDE interfaces, but as technology has moved on, so too has our need for speed increased.

SATA is limited to a maximum



throughput of 6Gbits/s (which when overheads are factored in equates to around 600MB/s) – but in a new PC it is becoming a bottleneck. A newer solution is to move away from SATA and utilise the PCI Express (PCIe) channel on the PC. This involves mounting the SSD on a card and plugging into an empty PCIe slot.


PCIe SSD is definitely faster than SATA SSD with test results showing sequential read speeds at least twice as fast (up to 1500MB/s) and sequential write speeds even better (up to 1800MB/s).

Intel has been hard at work on a new technology for SSD's as well. Called 3D XPoint, this is a new technology set to drive their new Optane branded drives. Details about the technology are still pretty closely guarded but

SSDs feature banks of non-volatile NAND flash

■ ■ NAND flash is non-volatile meaning it continues to hold information while powered off ■ ■

Intel have teased saying the memory creates a 3D Checkerboard type structure in which data can be read and written in smaller sizes – which makes everything more efficient and allows for significant performance increases. They have announced claims of up to 5-7 performance increase over current SSD devices. We will have to wait and see as the first of their new drives aren't due until well into 2016.

Start saving your pennies now so you're ready for the next big leap forward. 

PCPP COMPS

Welcome to the PCPP competitions page! With the office positively overflowing in PC gaming goodies, it's become so difficult to do our ridiculously awesome jobs that we decided to pass the savings onto you. And by savings, we mean free stuff. Games, collectibles, swag, and all kinds of media that screams PC gaming. Or perhaps those are the screams of the intern trapped under the boxes of giveaways. Only one way to save them: Head to www.pcpowerplay.com.au to enter!

To find the competitions, simply mouse over the "Community" tab in the main menu at the top of the homepage, and click on "Competitions". Click through to each individual competition page, fill out the form (be sure to agree to the terms and conditions) and you'll be in the running to win! Keep an eye out for this page in future issues of PCPP, as we roll out new competitions every month!

WIN



When Marnie Was There

When Marnie Was There is potentially the last Studio Ghibli film that will ever be released thanks to the retirement of Miyazaki and the studio hiatus. Luckily, if this is their last film, it's a great one, full of the beauty, wonder, whimsy and melancholy that are the trademarks of one of the greatest film studios in the world.

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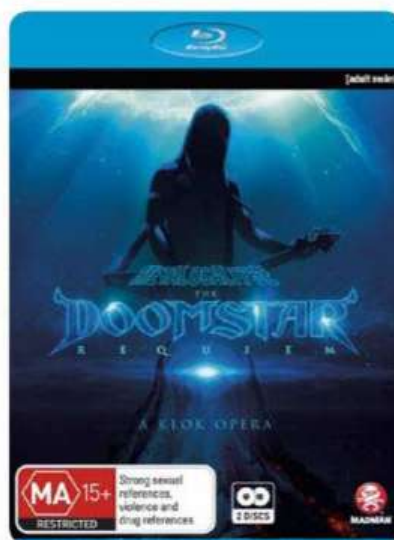
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In 25 words or less, answer the following question:

▶ **Which is the best Ghibli film and why?**

10

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TO ENTER:

Head to www.pcpowerplay.com.au
In 25 words or less, answer the following question:

▶ **What is your metal name and how did you get it?**

10

BLU-RAYS TO BE
WON THANKS TO
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WINNERS Congratulations to Lachlan Davey from Victoria for winning the Hulk 970 subs prize!

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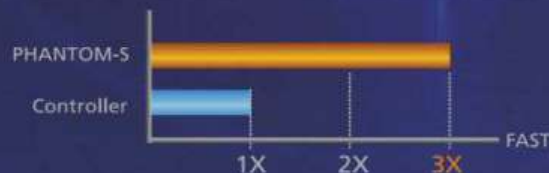
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MA/245

In The Before Time

JOSHUA LUNDBERG needs a new blood bag

Managing expectations is one of the hardest aspects of producing an entertainment product. The fine balance of representing a game accurately, whilst also attempting to sell to audiences, is an unsteady tightrope; you have game journalists previewing the product, possibly consumers at events like E3 or PAX - inevitably these interactions will wobble the wire leading you to success.

Many missteps can be made during the production of a videogame, and managing the runaway imaginations of your consumers can prove a trying task. Mad Max has stood out in 2015 as a game that moved from a spark of enthusiasm as master sandbox developers Avalanche Studios took the helm under publisher Warner Bros. Interactive to a game which has quietly won hearts and minds of gamers.

There were initial concerns with gamers as development moved forward with an American voice actor in a game famed for its rough, Australian origins. Demonstrating their care for players, Avalanche listened and moved forward with an Australian.

As development moved along and more and more media was released it appeared as though Avalanche had pulled off a the creation of a rarity: a great videogame based on a movie license.

After a foray into the Matrix franchise that was riddled by poor PC ports and some average game design, Warner Bros. came back hard and fast with Arkham and the purchase of TT Games, who develop the LEGO franchise - virtually a licence to print money.

With Rocksteady an internal studio, Warner Bros. gained access to one of the most entertaining and satisfying combat systems gaming had seen in a long time; free-flow.

Simple commands of hit, dodge, counter-attack, requiring fairly precise timing would make players feel involved, under threat and exhilarated without becoming bored. Warner Bros. demonstrated their commitment to free-flow by including it in their most recent game set in Middle-Earth, Shadows of Mordor. Mad Max was next.

Yet in 2014 - after nearly a year with little to no publicity for the game - an in-engine trailer announced Mad Max would be pushed back to 2015. The game would miss the cinema release of George Miller's Fury Road entirely.

Moving a release date has become commonplace in the videogames industry

and despite the best efforts of developers and publishers it is incredibly hard to convince the masses it's a good thing. To sell a later release as a confidence-boosting positive requires impeccable communications, but Avalanche have the outward appearance of a relaxed and confident bunch, so the delay appeared sincere. It helped that they hadn't been selling the game to consumers throughout 2014.

Possibly to coincide with the home entertainment release of the film, September 1, 2015 was chosen as the release date. The showcasing of gameplay ramped up intensely in 2015, culminating in 40-minute demonstrations of the world.

As a huge fan of the Just Cause franchise I had faith in Avalanche, but the nature of the franchise concerned me. Mad Max takes place in an empty, dead world, filled only in the nooks and crannies - with the occasional camp, town and stronghold. How can that world be absorbing for tens of hours?

■ Unlike Mad Max, Konami had the advantage of a paid demo in the form of Ground Zeroes ■

Adding to potential concerns about yet another film franchise adaptation being a mediocre experience was the announcement by Hideo Kojima that Metal Gear Solid V would be released on PS4 and Xbox One on September 1 and on Steam on September 15.

The Metal Gear Solid franchise has seen extraordinary success and with the breadth of open-world gameplay inspired by the brilliant Metal Gear Solid: Peacewalker, the two were in more direct competition than expected. For PC gamers the Fox engine had the exciting appeal of being Kojima's idea of 'the best engine in the world'.

Unlike Mad Max, Konami had the advantage of a paid demo in the form of Ground Zeroes acting as proof of their claims the game would eventually run brilliantly - even on mid-range hardware. I recall reading many claims in comments sections on articles and videos that the game should be avoided due to the inevitable outcome of a lazy PC port. The outstanding

performance of Just Cause 2 on PC served as a testament to Avalanche Studio's dedication to optimisation - I still wanted the game.

In the weeks leading up to the release of both games, Mad Max felt on the back foot, but Avalanche didn't outwardly appear to be in any way concerned.

The comparisons between the MGSV and Mad Max were, of course, unfounded. The two games are vastly different.

The problem for Warner Bros. was that, for possibly the first time, Hideo Kojima had created a product with gameplay appeal so broad consumers with no previous experience of the series were looking to pick it up.


Discounts for the PC version of Mad Max could be found on sites like Green Man Gaming: 30-50%. This huge reduction in price was, in my mind, somewhat concerning. Why lower the price? How bad could it be?

Despite this a Polygon demonstration of gameplay with a frank discussion between two journalists at the publication further reinforced my longing for the game.

In the final days before release the absence of pre-release reviews for Mad Max became quite concerning. The lead up to the release of Aliens: Colonial Marines came to mind; a game that appeared to be great, worked on by GearBox Studios who were allegedly copying and pasting gameplay mechanics from their highly successful Borderlands franchise. Colonial Marines looked great, but the absence of pre-release reviews hid the fact it was an appalling game.

Review consensus was mixed. Having begun playing the game I found one review by a significant publication quite harsh and became concerned a bland game awaited me in the coming days. As it turns out, Mad Max is a slow burn - it was very interesting to see Rock Paper Shotgun's John Walker's initial impressions contrast against his eventual review. Like a fungus, it grows on you.

Avalanche and Warner Bros. have executed an interesting campaign to position Mad Max as 'that other game from 2015 you should play'. User reviews are definitive: it is a fun, absorbing game that requires hours of play before the breadth of the game is revealed.

Personally, I'd like to see this more often. The publisher and developers have absolutely stood by a game they believe in. A game they know won't change gaming, but promises dozens of hours of challenging, engrossing fun. 



Kicking the Habit

DANIEL WILKS has everyone's backs

Crowd funding is a strange thing. In the last month or so, crowdfunding has been at the centre of both a number of phenomenal success stories and controversies that have really shown both the strengths and weaknesses of the concept. On the one hand, you have Harebrained Schemes, a developer that has proven on multiple occasions to be able to successfully crowd fund a game, release on time and score both critical and commercial success having their base pledge goal for BattleTech smashed in 53 minutes. On the other you have the feud between Chris Roberts, The Escapist, Derek Smart and others about Star Citizen and whether or not it has run out of money (amongst other allegations). I don't want to dig too far into the ongoing shitstorm that has developed, but it does highlight one of the problems inherent with crowd funded titles – delivery estimates and expectations.

I am a pretty compulsive contributor to Kickstarter campaigns. As it currently stands I have committed money to 24 campaigns. Of those, one has been unsuccessful, one was cancelled, nine have been delivered, three aren't expected until next year, one has catastrophically failed and the remaining nine are yet to see the light of day. It's these last nine that I want to focus on for the moment. The games that set a release window in their campaign and then failed to meet it in some way. Take Grim Dawn by Crate Entertainment for example. The 2012 Kickstarter campaign was successfully funded in May of that year, earning Crate \$537,515 over their \$280,000 pledge goal. At the time the delivery date for the game was set for August of 2013. As of October 2015 the game is still in Early Access/Beta, with the final act of the game being released in early playable form in late August. While it's obvious from the constant updates to the code that Crate Entertainment are hard at work on the game and what they are delivering is great, such a long open access period has sapped a lot of excitement from the release, especially given the fact that the game was initially given the 2013 release window.

Though not to the extent of Star Citizen, the delay of Grim Dawn has been due to feature creep. In the last content update, the team added a new class on top of the ones that had been planned for the game.

While this is awesome as far as eventual replayability goes, it does raise the question of whether developers who have Kickstarted their projects have more of a duty to release their game in a timely fashion or to have it feature all the content they envisage, even if it goes over and above the initial project plans. Take for example Shroud of the Avatar: Forsaken Virtues. The game was successfully funded in April 2013, managing to rake in a little over \$1.9 million, nearly doubling the initial pledge goal. The game had an estimated delivery of October 2014 (an extremely ambitious goal it must be said). On September 25 of this year, Release 22 of the game was sent into the world as a much different game than originally pitched. The campaign for Shroud of the Avatar talked about a spiritual successor to Ultimas, with a sandbox world, a living ecosystem and a story that grew organically from

■ fighting against friends will be a dream come true. Take my damn money for your most distant of stretch goals ■

conversation rather than clicking on quest givers and heading off to some identified part of the map to kill some beasts. It was a single player game with multiplayer components and a huge degree of player freedom. Release 22 is an online, multiplayer sandbox more reminiscent of Ultima Online than what was promised to backers. The only word on single player has been a quote from the developer saying they have a story and everything, but because of the MMO features (that weren't really there in the pitch) they have to build that first then lay the single player game on top of it later.

The developer comment came in late July 2015 and culminated with an excited proclamation that the game was getting that little bit closer to Alpha. 22 releases and we're not even at Alpha stage yet on a game that is different from what was initially promised for release a year ago. This is really a worst case scenario –

Portalarium are doing the work of making the game and they have a vision for where they see it going – that much is sure – but that vision is different from what was shown to backers and it's not happening in the timeframe they promised. I think ultimately that is the crux of the problem with crowd funding. Whose vision is more important? The platform is set up to allow interested parties to back a project with their money through what essentially amounts to a very, very early pre-order. If that project is successfully backed, the company asking for the funds then goes about making the product they pre-sold to the backers. If the direction of said product changes, where does the onus fall? Should developers only do what they originally promised or should they try and make their ultimate vision of the game even if it's not what was on the box to begin with?

Stretch goal go some way towards alleviating some of these problems. Harebrained Schemes are masters of stretch goals, using them to show what they can do for money and also teasing players with the possibilities as long as they are willing to part with a little bit more money. This tactical stretching is on display with the Kickstarter campaign for BattleTech. For \$250k they said they could make a skirmish game. They had that money in 53 minutes. For \$1 million they would add a single player campaign. That goal was reached within the first 24 hours. The final major goal still hasn't been reached as I write this, but for \$2.5 million they will add multiplayer. With 28 days left in the campaign I have no doubt they will reach the goal. As a player of tabletop BattleTech, fighting against friends will be a dream come true. Take my damn money for your most distant of stretch goals.

Is ambition really the key to delays and feature creep? Harebrained Schemes are ambitious. They have a small development team and have developed a number of commercially and critically successful crowd funded games over the last few years, and are wanting to bring an old tabletop game to life. The difference in ambition between Harebrained and Portalarium seem to be that the former has the ambition to give players what they want, where the latter want to deliver the game that the developers want. Which is the right course? 





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